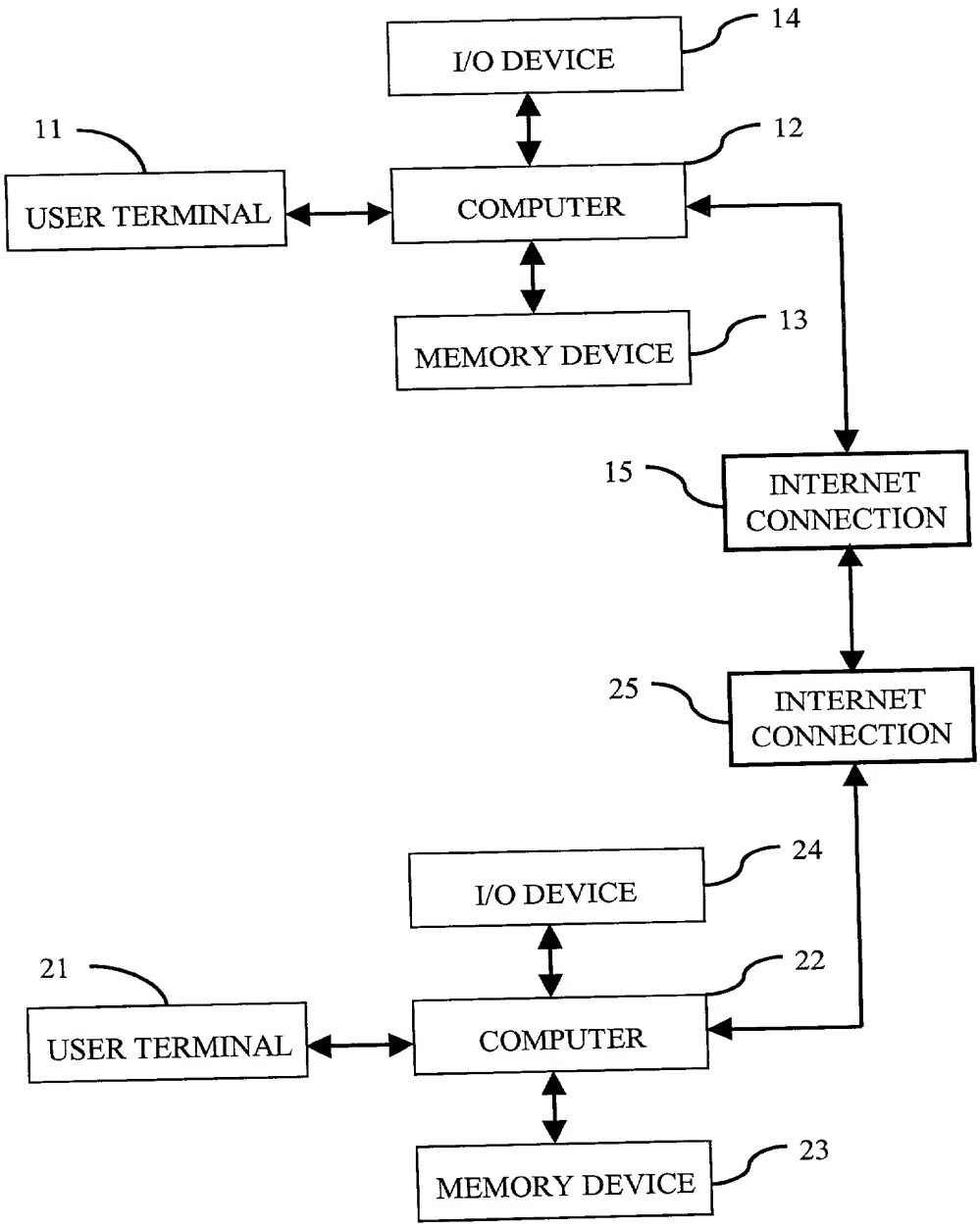
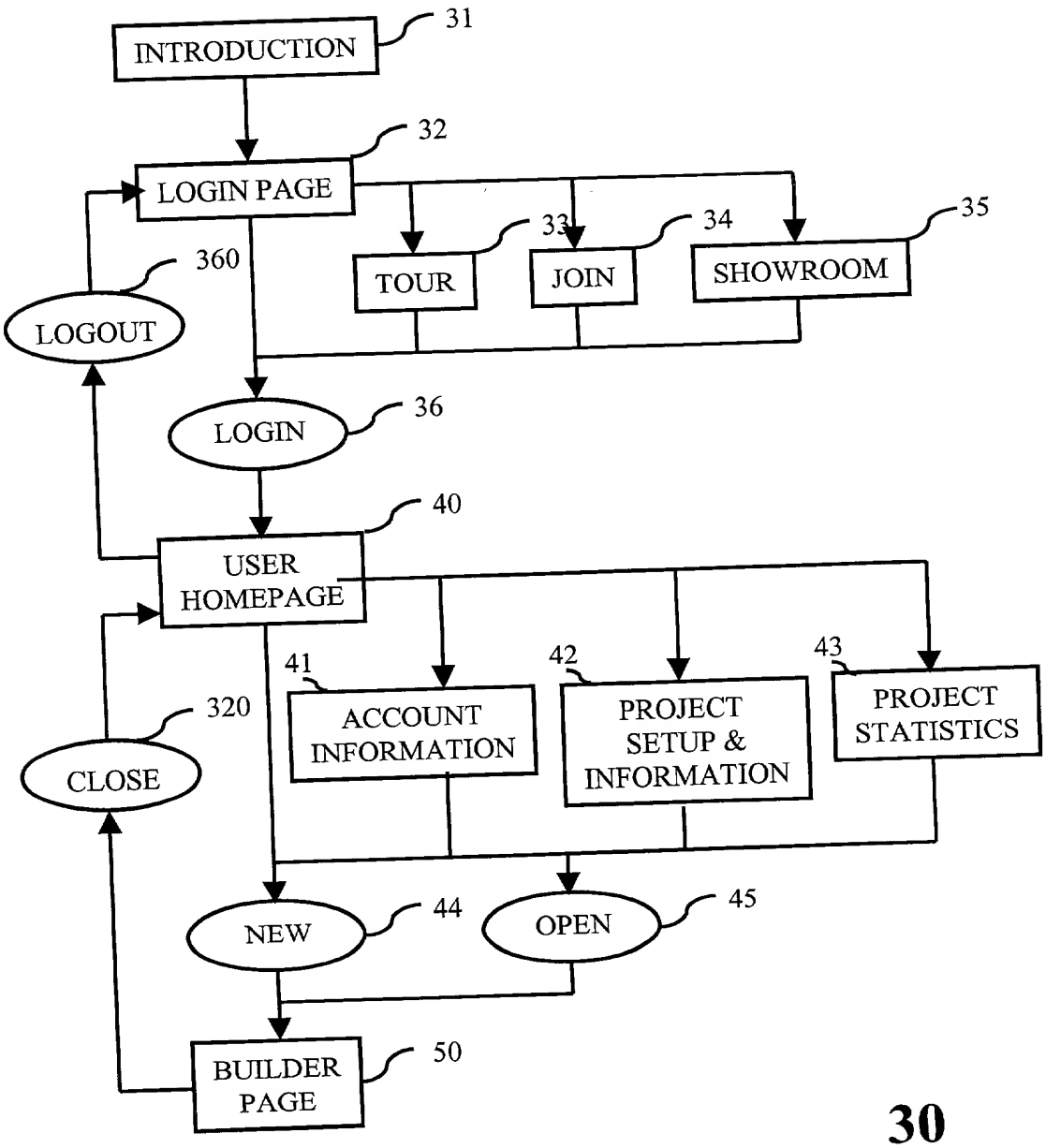

I/O DEVICE
14
11
12
USER TERMINAL
COMPUTER
MEMORY DEVICE
13
15
INTERNET CONNECTION
25
INTERNET CONNECTION
24
I/O DEVICE
21
22
USER TERMINAL
COMPUTER
MEMORY DEVICE
23

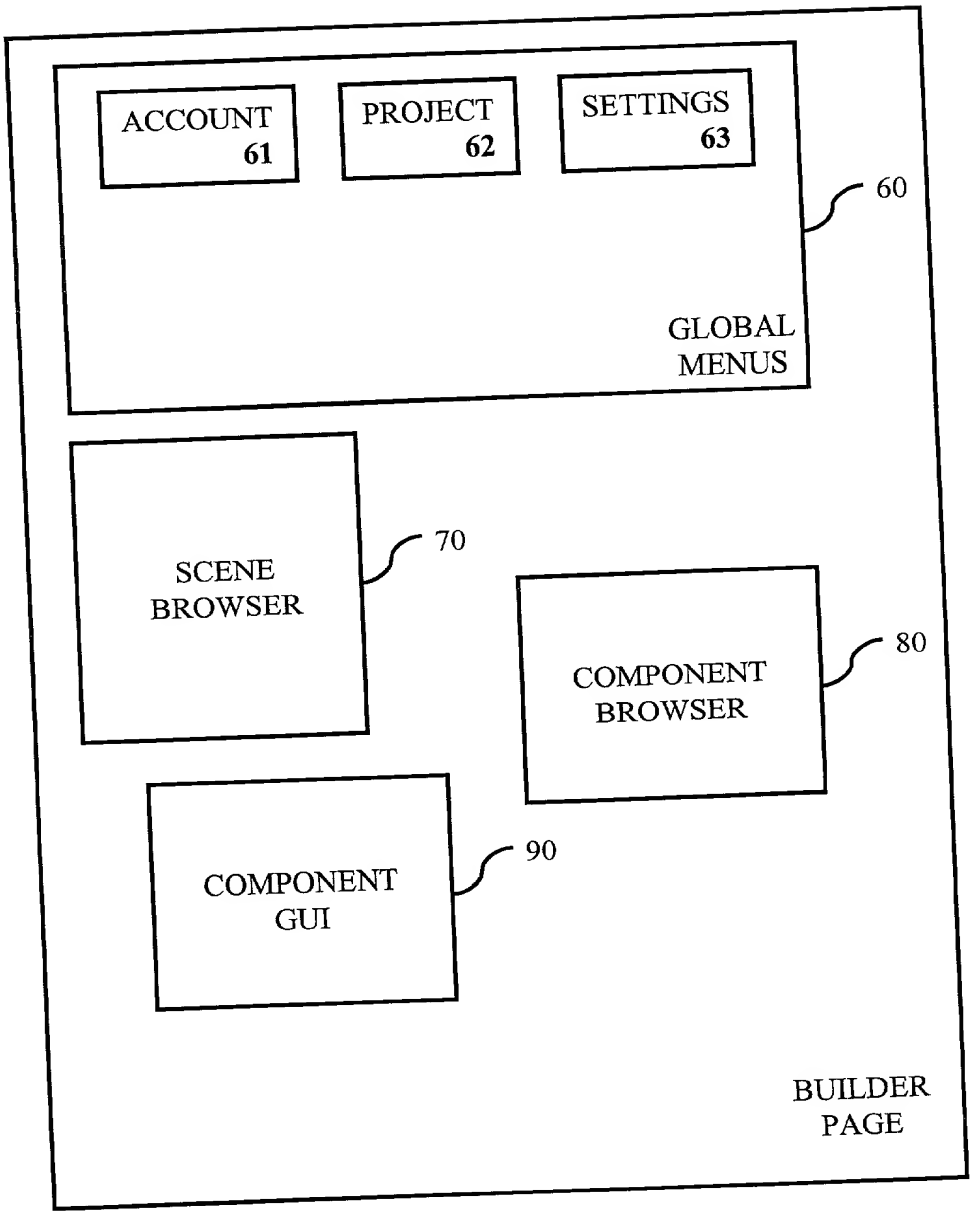
10

Fig. 1


INTRODUCTION
31
LOGIN PAGE
32
TOUR
33
JOIN
34
SHOWROOM
35
LOGOUT
360
LOGIN
36
USER HOMEPAGE
40
ACCOUNT INFORMATION
41
PROJECT SETUP & INFORMATION
42
PROJECT STATISTICS
43
CLOSE
320
NEW
44
OPEN
45
BUILDER PAGE
50

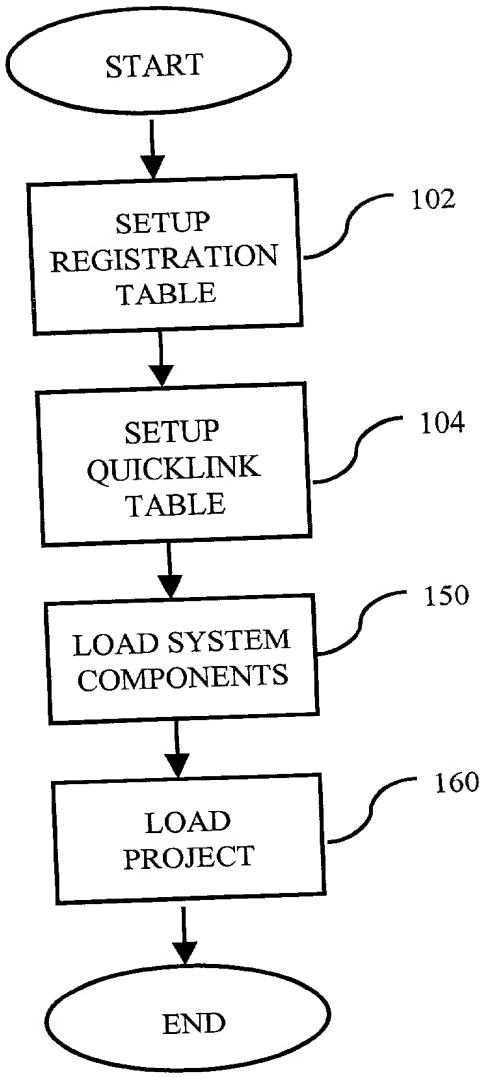
30

Fig. 2


ACCOUNT
61
PROJECT
62
SETTINGS
63
60
GLOBAL
MENUS
SCENE
BROWSER
70
COMPONENT
BROWSER
80
COMPONENT
GUI
90
BUILDER
PAGE

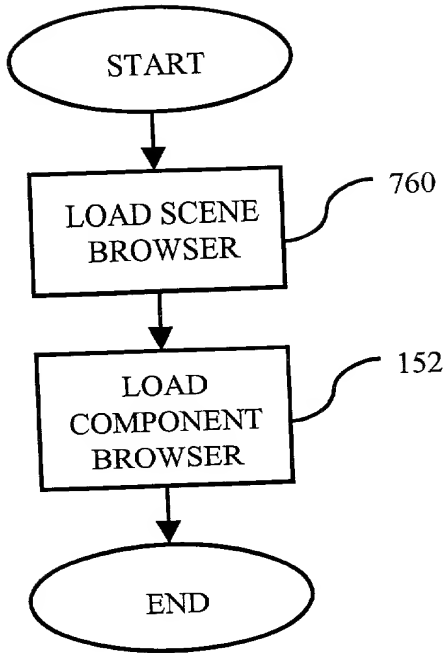
50

Fig. 3


START
SETUP REGISTRATION TABLE
102
SETUP QUICKLINK TABLE
104
LOAD SYSTEM COMPONENTS
150
LOAD PROJECT
160
END

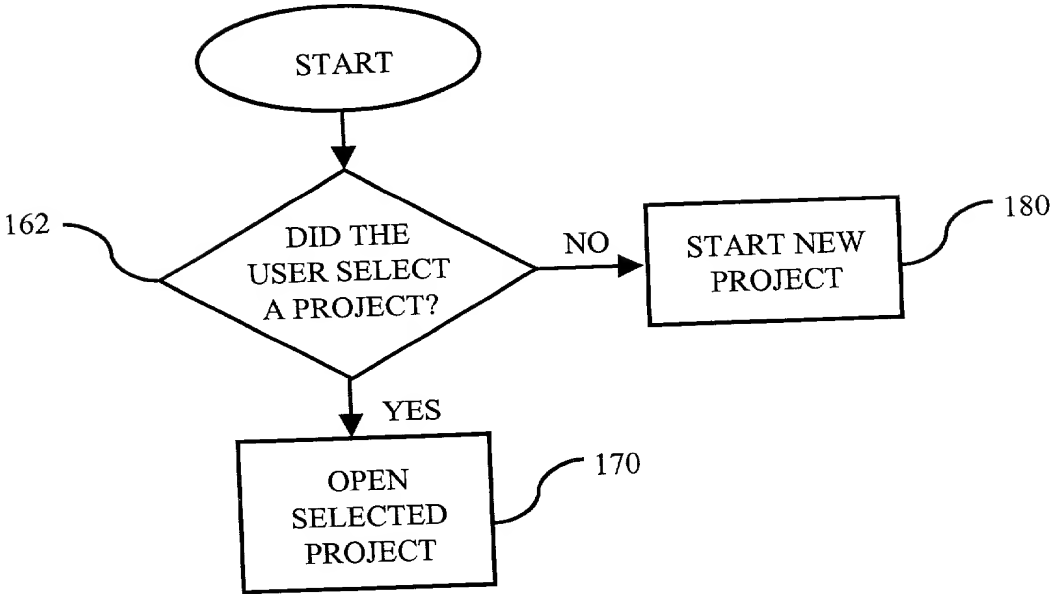
100

Fig. 4



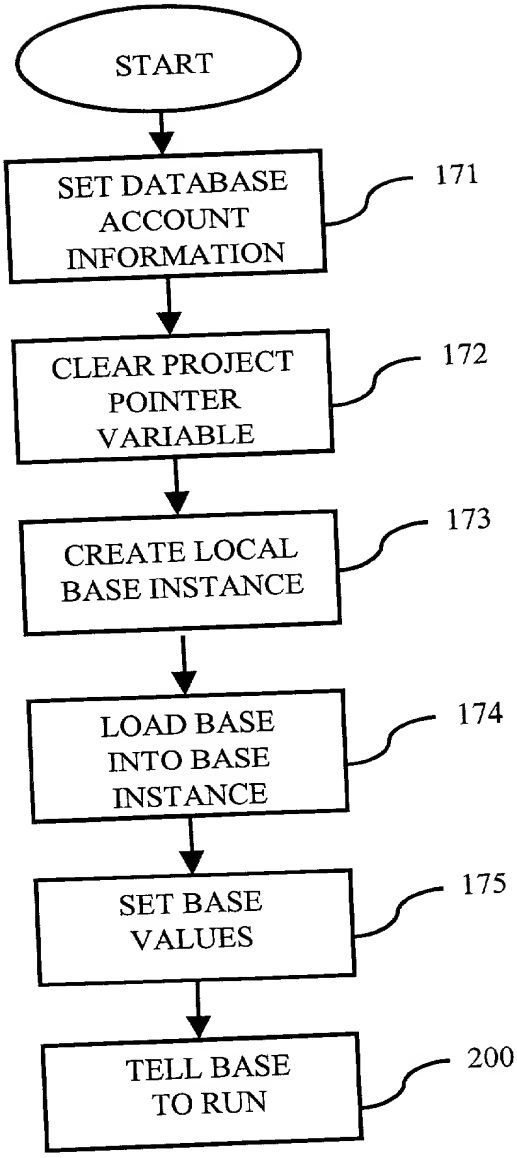
150

Fig. 5



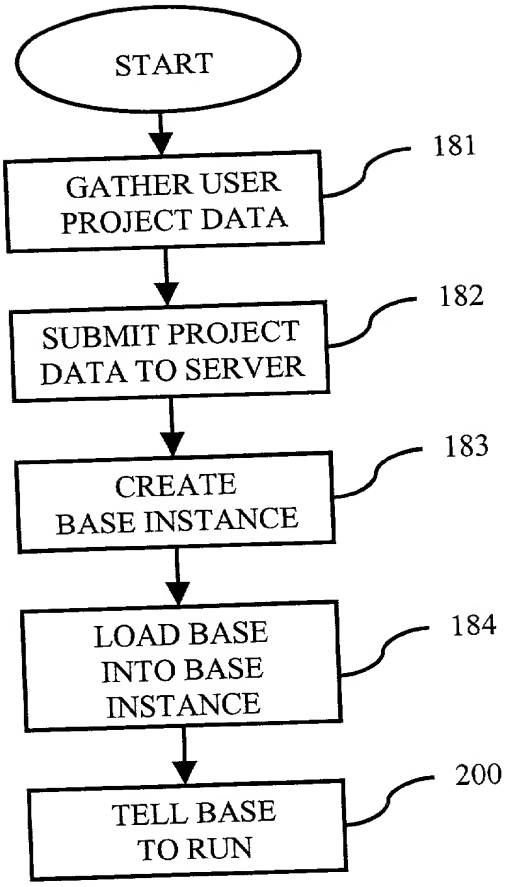
160

Fig. 6


START
SET DATABASE ACCOUNT INFORMATION
171
CLEAR PROJECT POINTER VARIABLE
172
CREATE LOCAL BASE INSTANCE
173
LOAD BASE INTO BASE INSTANCE
174
SET BASE VALUES
175
TELL BASE TO RUN
200

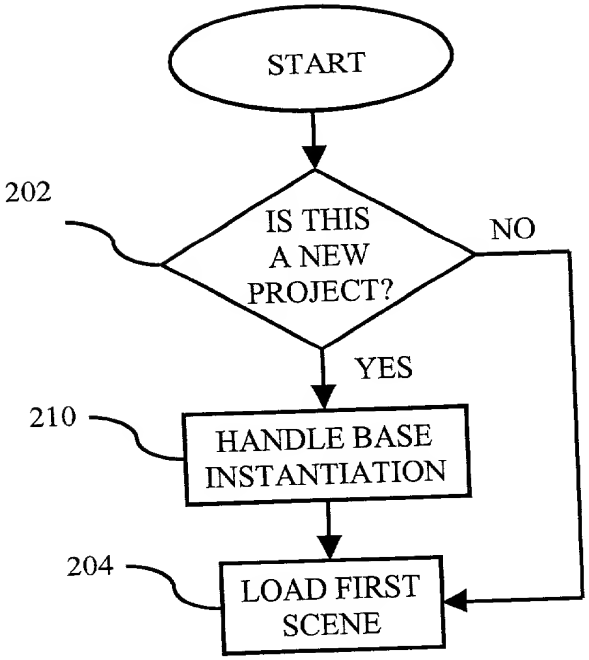
170

Fig. 7

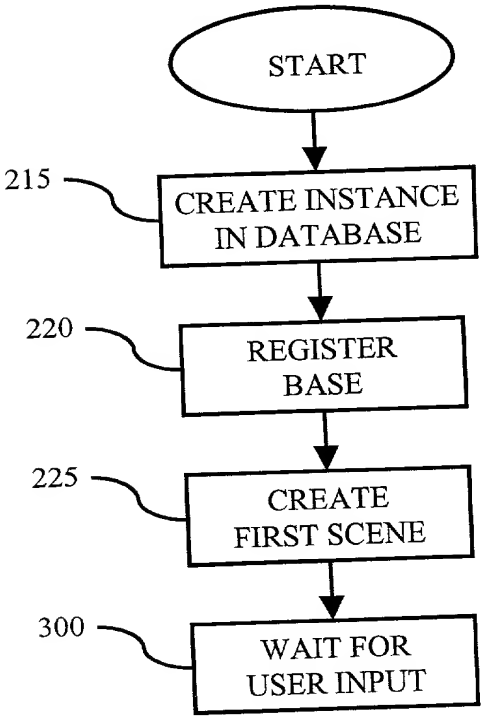

START
GATHER USER PROJECT DATA
181
SUBMIT PROJECT DATA TO SERVER
182
CREATE BASE INSTANCE
183
LOAD BASE INTO BASE INSTANCE
184
TELL BASE TO RUN
200

180

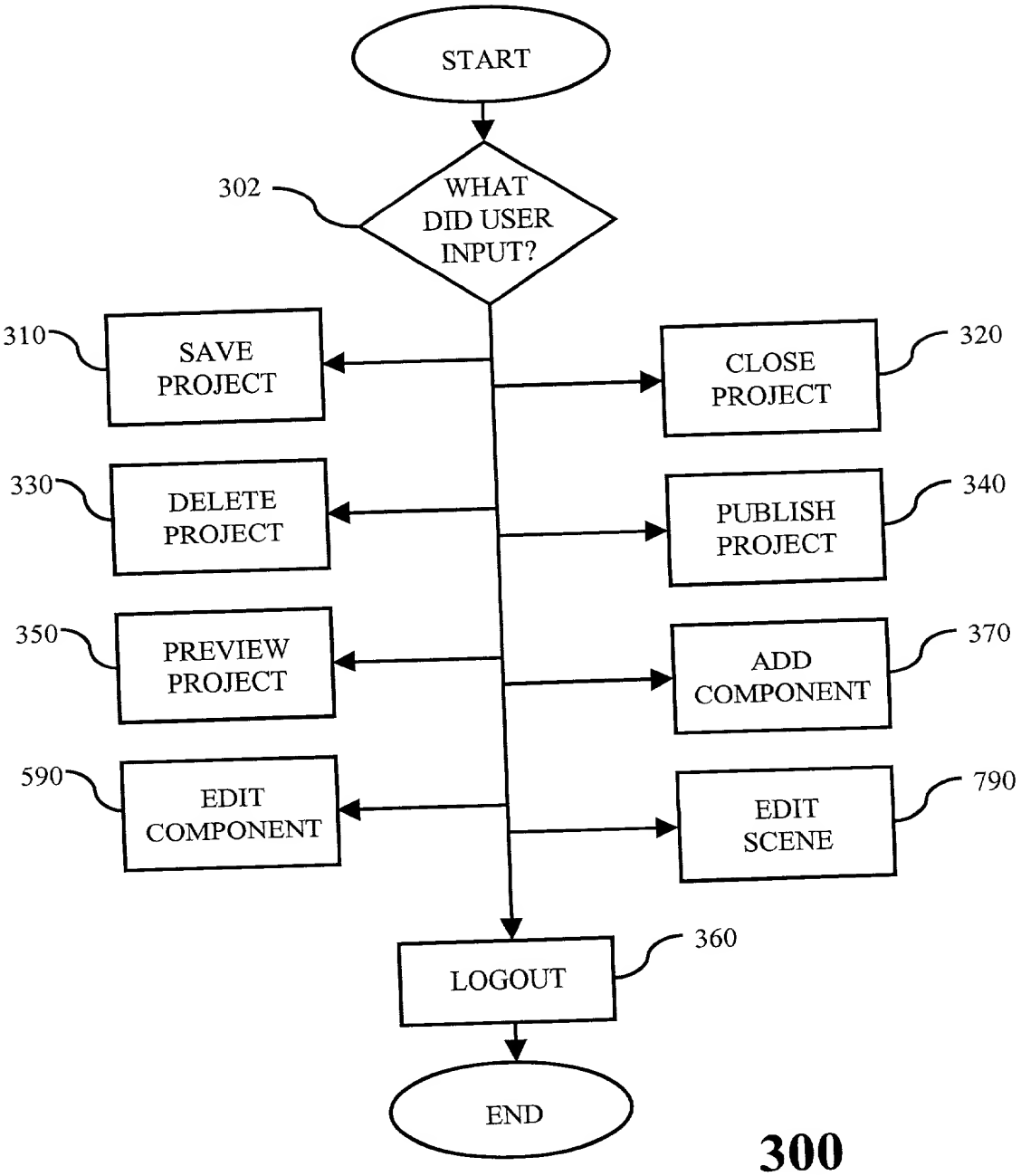
Fig. 8



200
Fig. 9

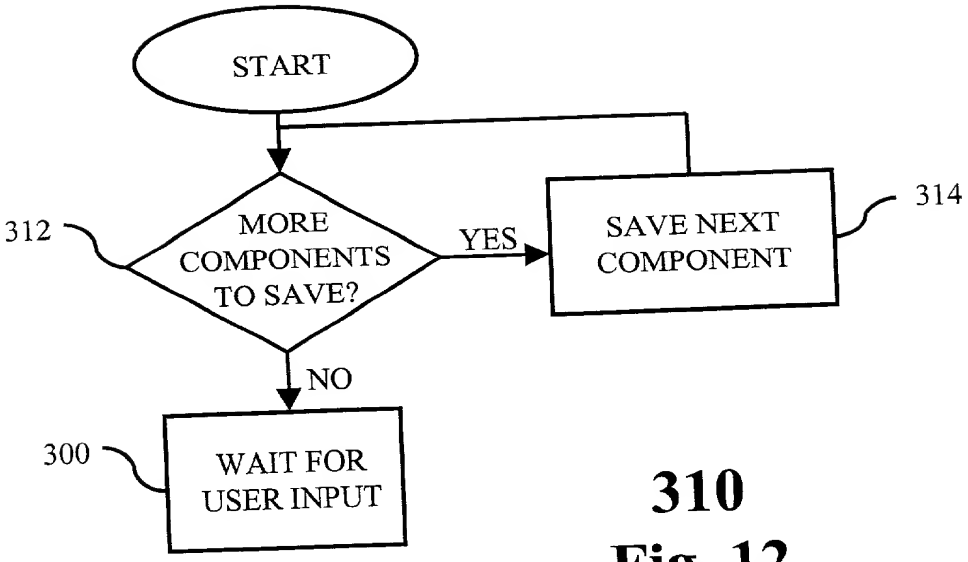


210
Fig. 10

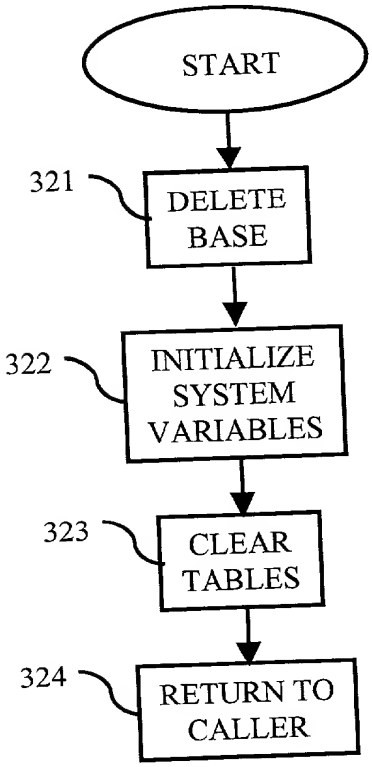

START
302
WHAT DID USER INPUT?
310
SAVE PROJECT
320
CLOSE PROJECT
330
DELETE PROJECT
340
PUBLISH PROJECT
350
PREVIEW PROJECT
370
ADD COMPONENT
590
EDIT COMPONENT
790
EDIT SCENE
360
LOGOUT
END

300

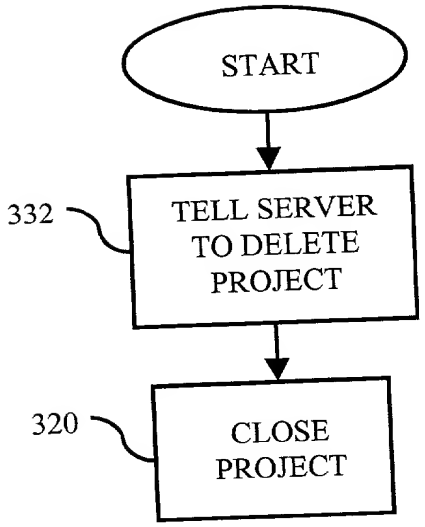
Fig. 11



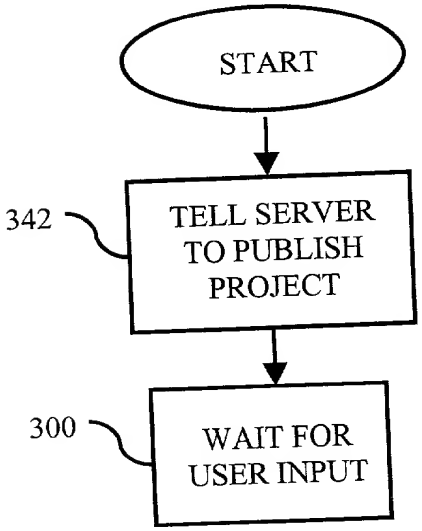
310
Fig. 12



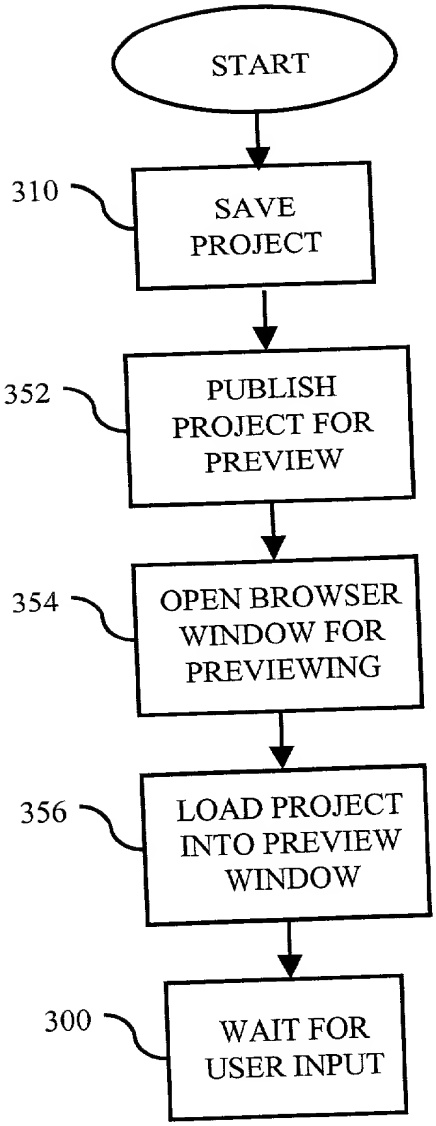
320
Fig. 13



330
Fig. 14

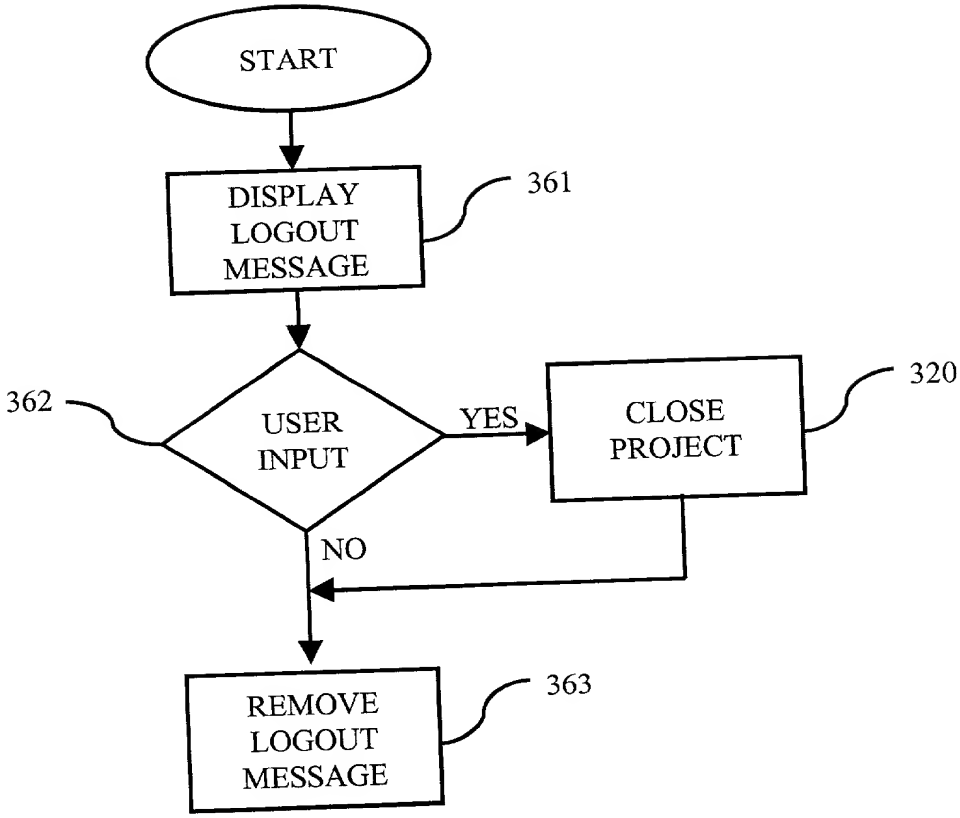


340
Fig. 15


START
310
SAVE PROJECT
352
PUBLISH PROJECT FOR PREVIEW
354
OPEN BROWSER WINDOW FOR PREVIEWING
356
LOAD PROJECT INTO PREVIEW WINDOW
300
WAIT FOR USER INPUT

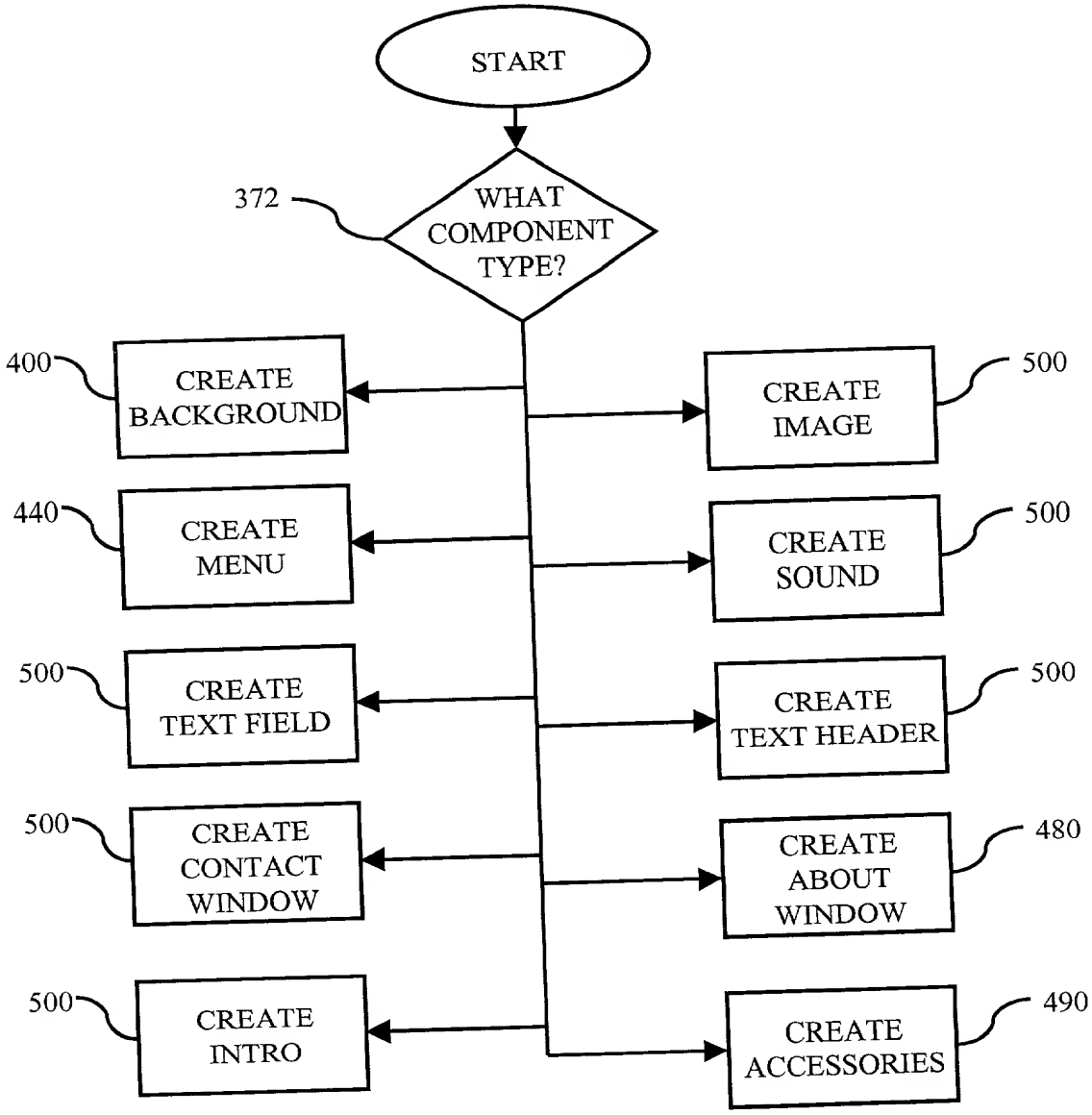
350

Fig. 16


START
DISPLAY LOGOUT MESSAGE
361
USER INPUT
362
YES
CLOSE PROJECT
320
NO
REMOVE LOGOUT MESSAGE
363

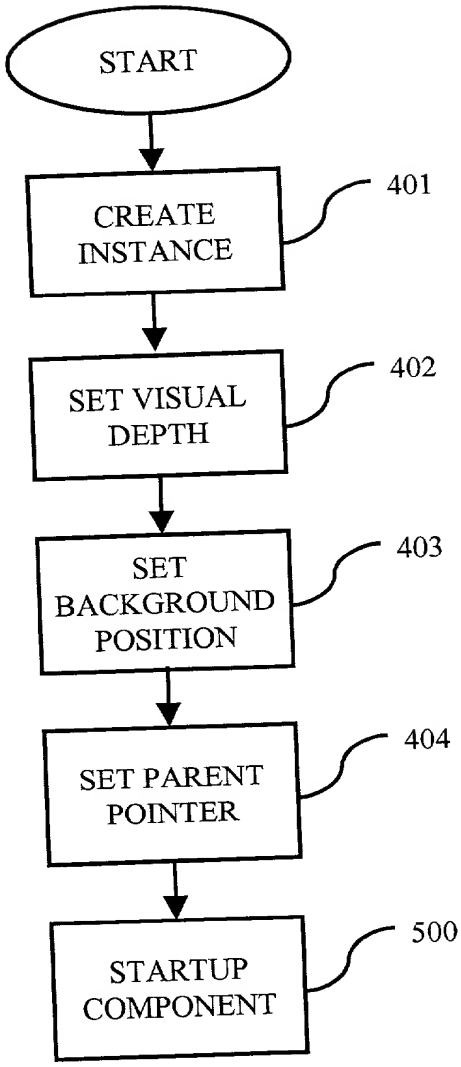
360

Fig. 17


START
372
WHAT COMPONENT TYPE?
400
CREATE BACKGROUND
440
CREATE MENU
500
CREATE TEXT FIELD
500
CREATE CONTACT WINDOW
500
CREATE INTRO
500
CREATE IMAGE
500
CREATE SOUND
500
CREATE TEXT HEADER
480
CREATE ABOUT WINDOW
490
CREATE ACCESSORIES

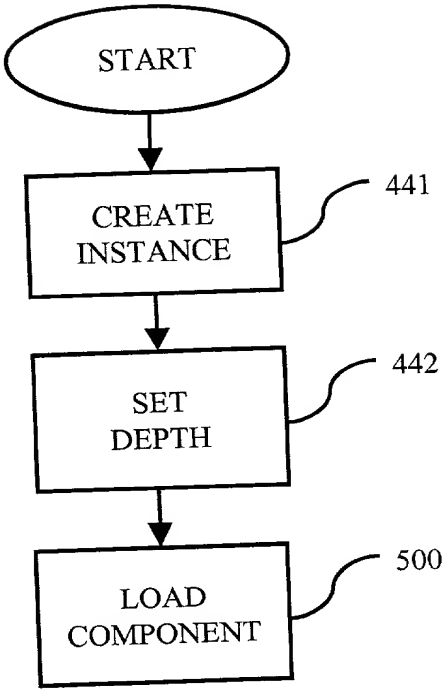
370

Fig. 18


START
CREATE INSTANCE
401
SET VISUAL DEPTH
402
SET BACKGROUND POSITION
403
SET PARENT POINTER
404
STARTUP COMPONENT
500

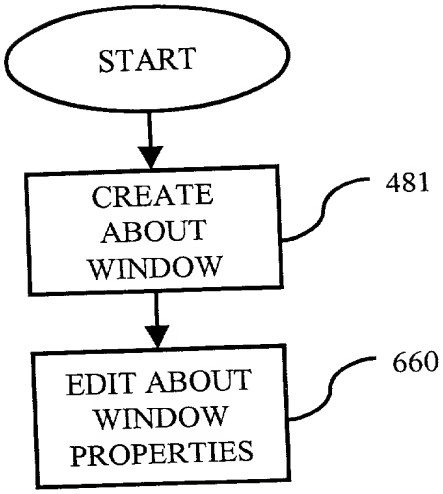
400

Fig. 19



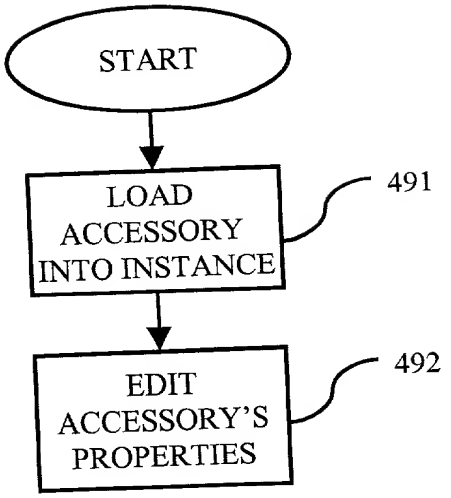
440

Fig. 20



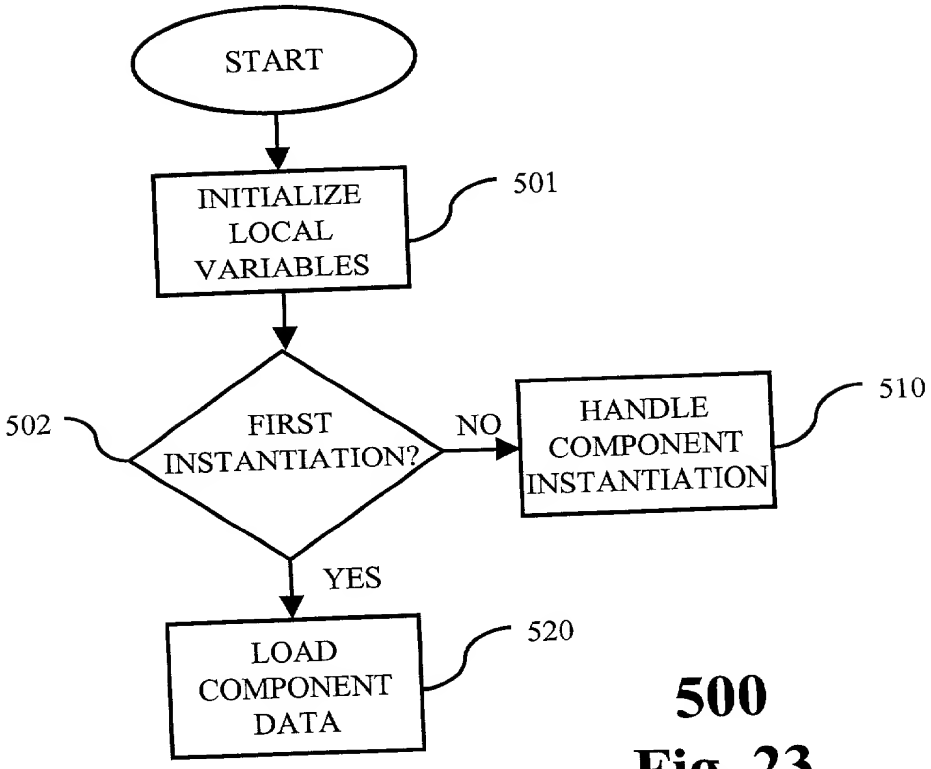
480

Fig. 21



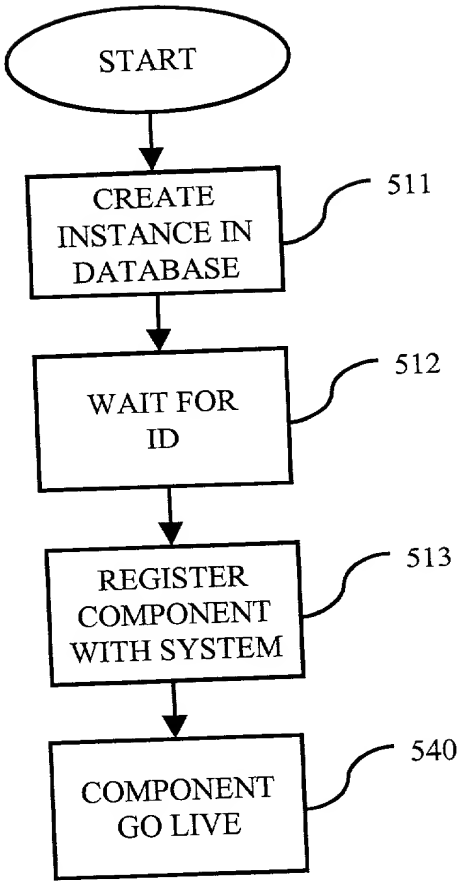
490

Fig. 22



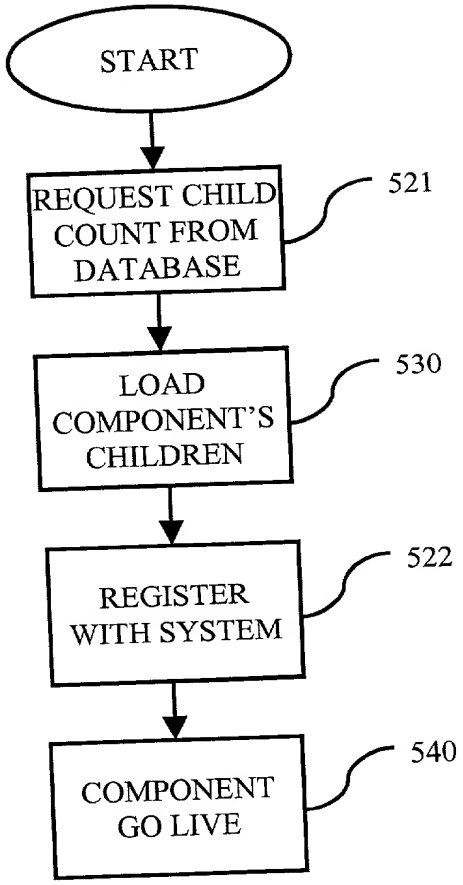
500

Fig. 23


START
CREATE INSTANCE IN DATABASE
511
WAIT FOR ID
512
REGISTER COMPONENT WITH SYSTEM
513
COMPONENT GO LIVE
540

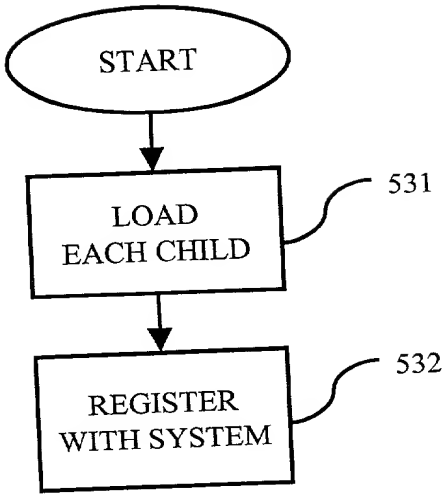
510

Fig. 24

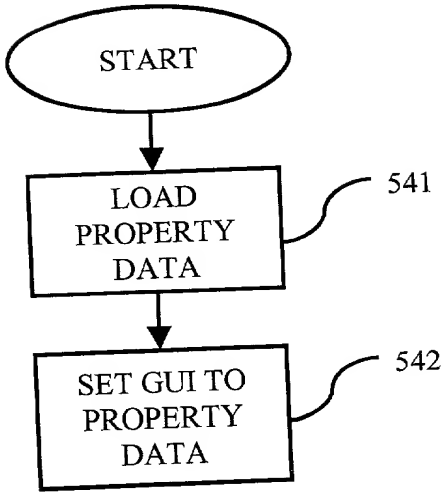

START
REQUEST CHILD COUNT FROM DATABASE
521
LOAD COMPONENT'S CHILDREN
530
REGISTER WITH SYSTEM
522
COMPONENT GO LIVE
540

520

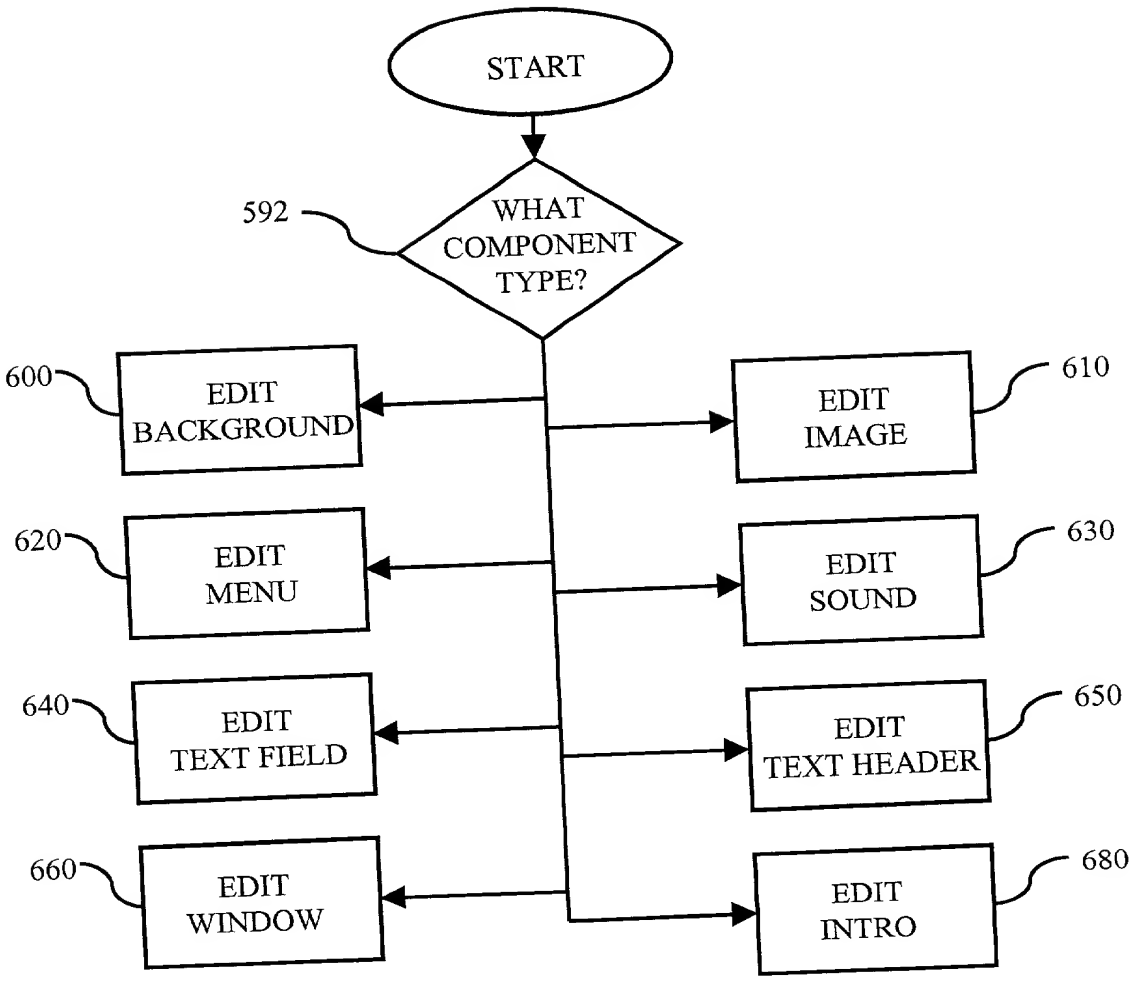
Fig. 25



530
Fig. 26

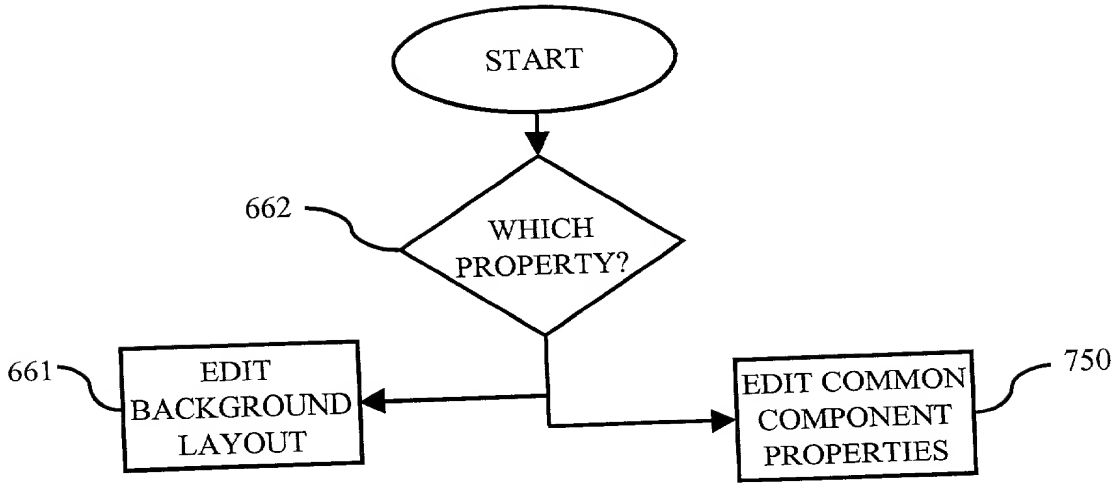


540
Fig. 27


START
592
WHAT COMPONENT TYPE?
600
EDIT BACKGROUND
610
EDIT IMAGE
620
EDIT MENU
630
EDIT SOUND
640
EDIT TEXT FIELD
650
EDIT TEXT HEADER
660
EDIT WINDOW
680
EDIT INTRO

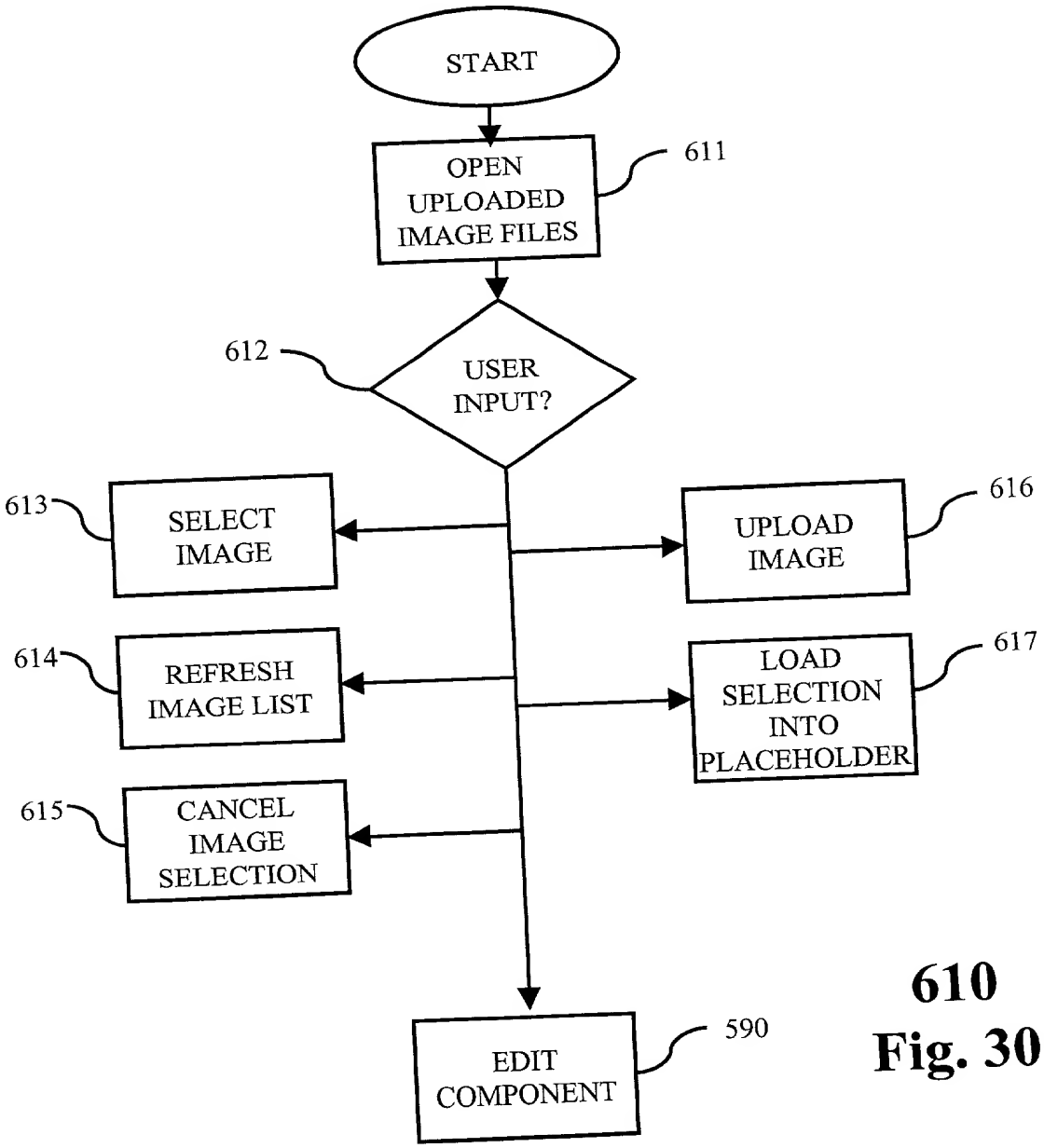
590

Fig. 28


START
662
WHICH PROPERTY?
661
EDIT BACKGROUND LAYOUT
EDIT COMMON COMPONENT PROPERTIES
750

600

Fig. 29


START
OPEN UPLOADED IMAGE FILES
611
612
USER INPUT?
613
SELECT IMAGE
616
UPLOAD IMAGE
614
REFRESH IMAGE LIST
617
LOAD SELECTION INTO PLACEHOLDER
615
CANCEL IMAGE SELECTION
590
EDIT COMPONENT

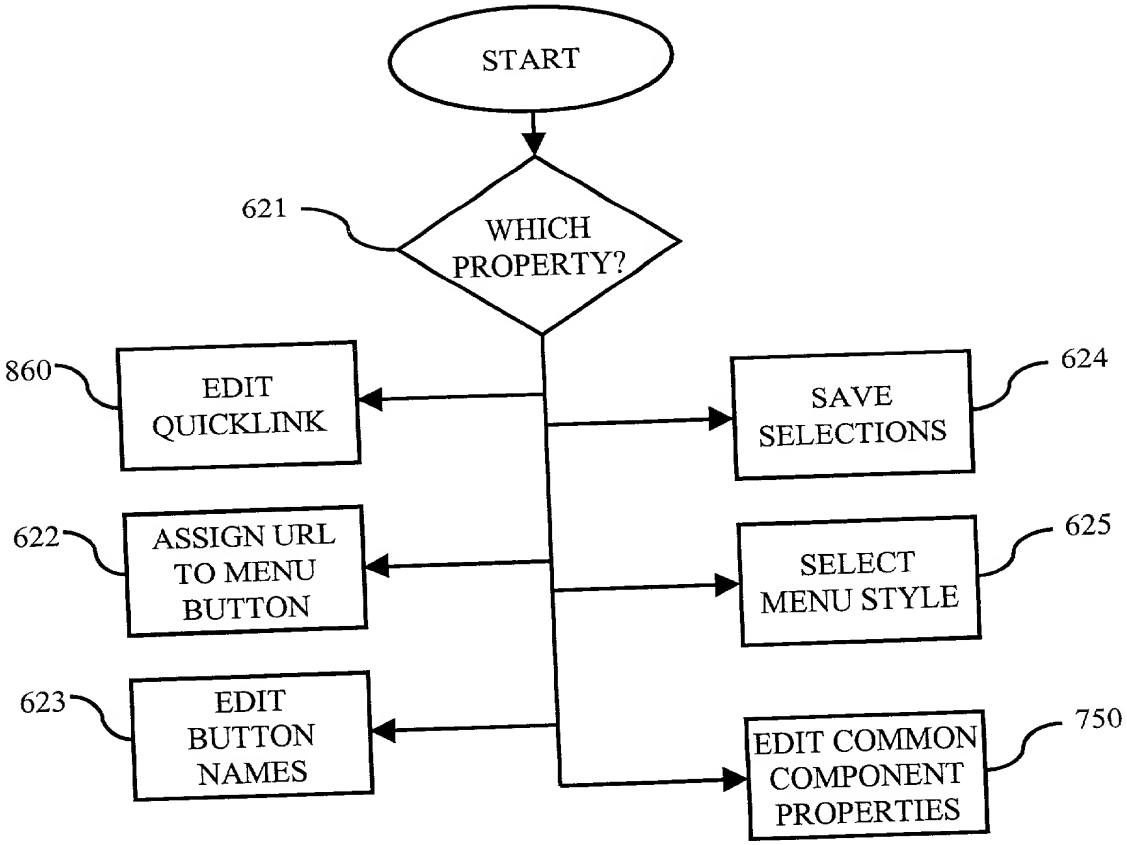
610

Fig. 30

618	Asset Image Upload												
C1	Enter	✓											
C2	Has an intro been selected?		Yes	No									
C3	Has a loop been selected?				Yes			No					
C4	Which loop type?				A*	B*	C*						
C5	Is loop count finished?								Yes	No			
C6	Has an outro been selected?										Yes	No	
A1	Set position, scale, rotation and alpha	✓											
A2	Play selected intro		✓										
A3	Play selected loop				✓	✓	✓						
A4	Check loop count						✓						
A5	Decrement loop count						✓						
A6	Play outro										✓		
A7	Go to Rest frame											✓	
	D I S P O S I T I O N	C2	C3	C3	C6	C4	C6	C6	C6	C4	Done	Done	

Fig. 31 – Asset Image Upload Component 618

Key – A* = play once, B* = infinite loop, C* = loop # of times selected

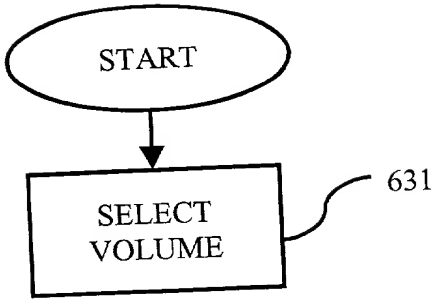

START
621
WHICH PROPERTY?
860
EDIT QUICKLINK
622
ASSIGN URL TO MENU BUTTON
623
EDIT BUTTON NAMES
624
SAVE SELECTIONS
625
SELECT MENU STYLE
750
EDIT COMMON COMPONENT PROPERTIES

620

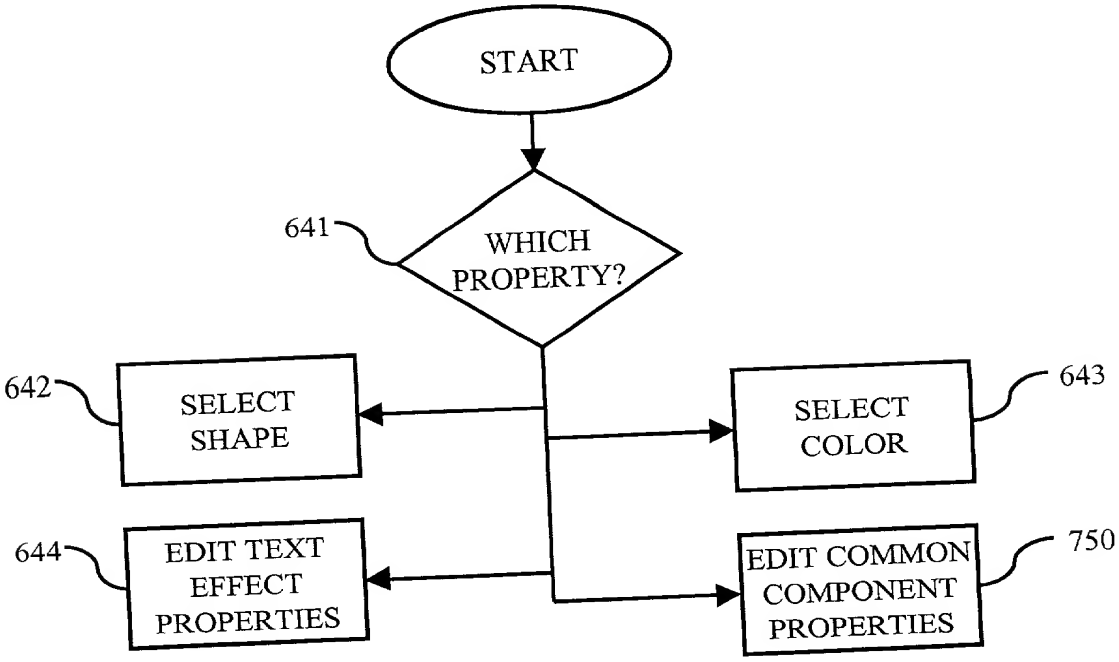
Fig. 32

628	Navigation Bar								
C1	Enter	X							
C2	Is number of buttons equal to number requested?		No	Yes					
A1	Set position, scale, rotation, and alpha	X							
A2	Receive button specific variables	X							
A3	Duplicate and position button		X						
A4	Select icon		X						
A5	Generate text field		X						
A6	Calculate size		X						
A7	Scale and position hit area		X						
	DISPOSITION	C2	C2	Done					

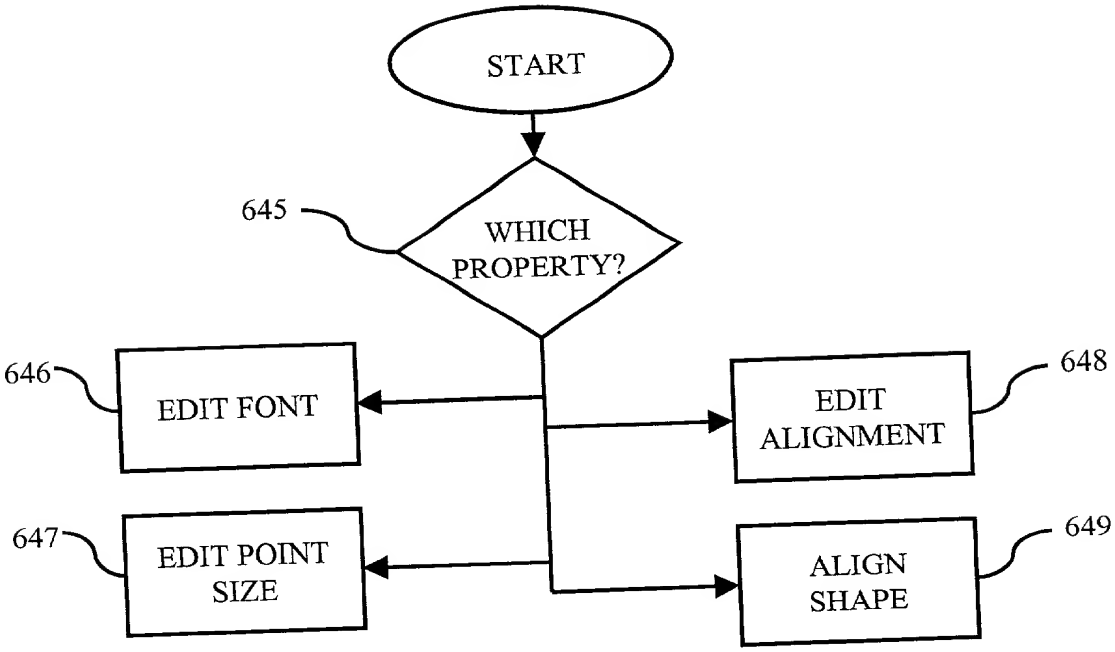
Fig. 33 – Navigation Bar Component 628



630
Fig. 34

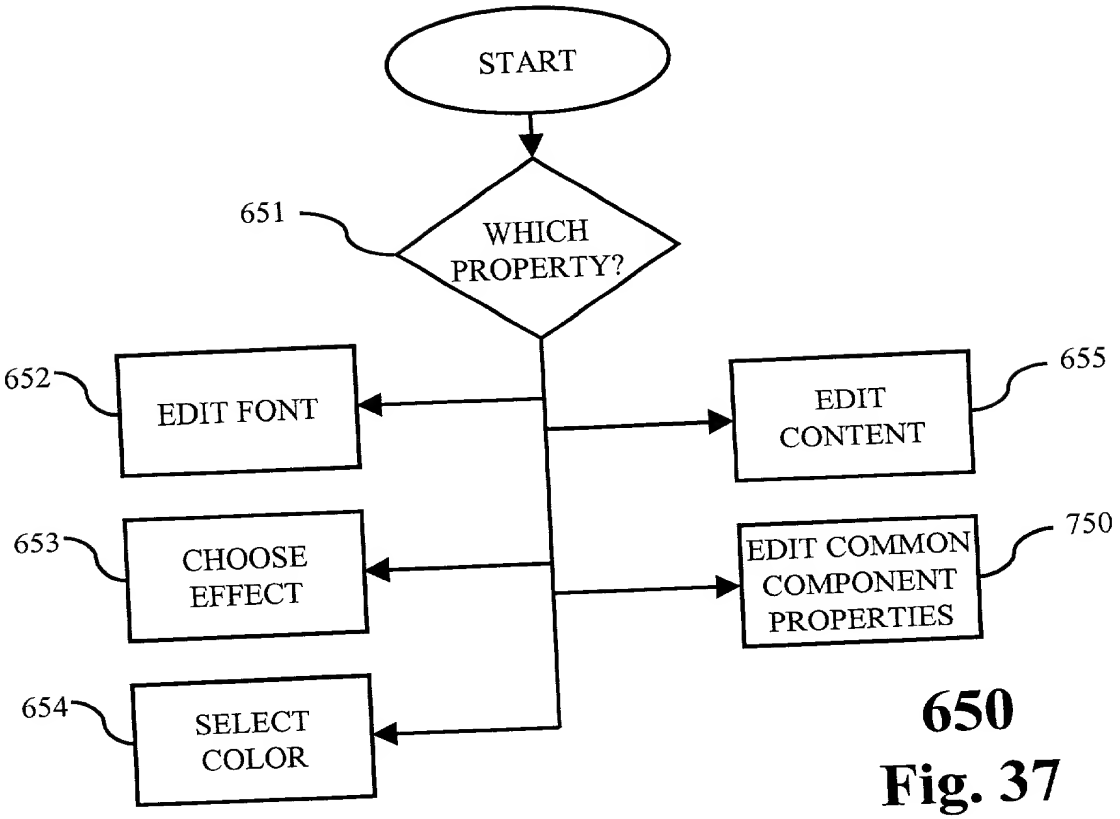


640
Fig. 35


START
645
WHICH PROPERTY?
646
EDIT FONT
647
EDIT POINT SIZE
648
EDIT ALIGNMENT
649
ALIGN SHAPE

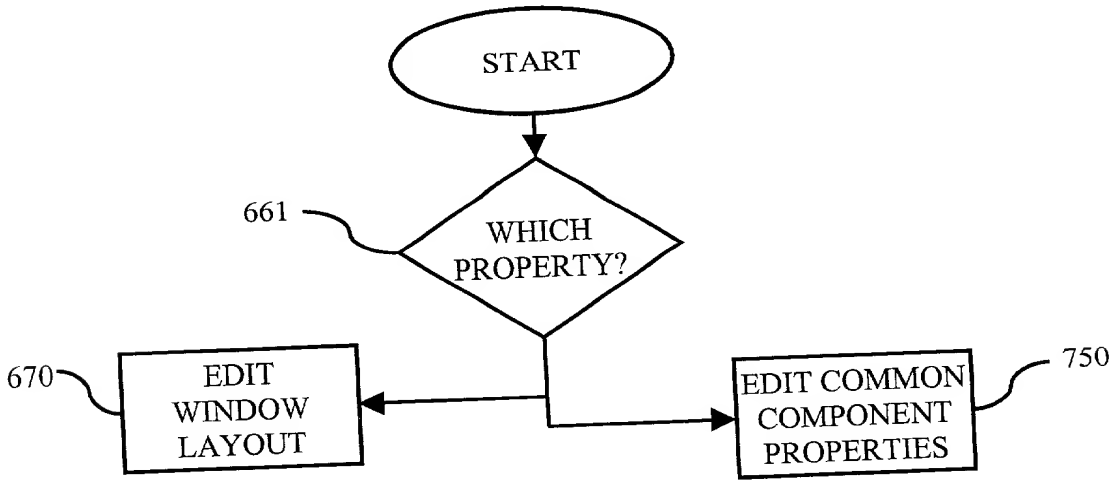
644

Fig. 36



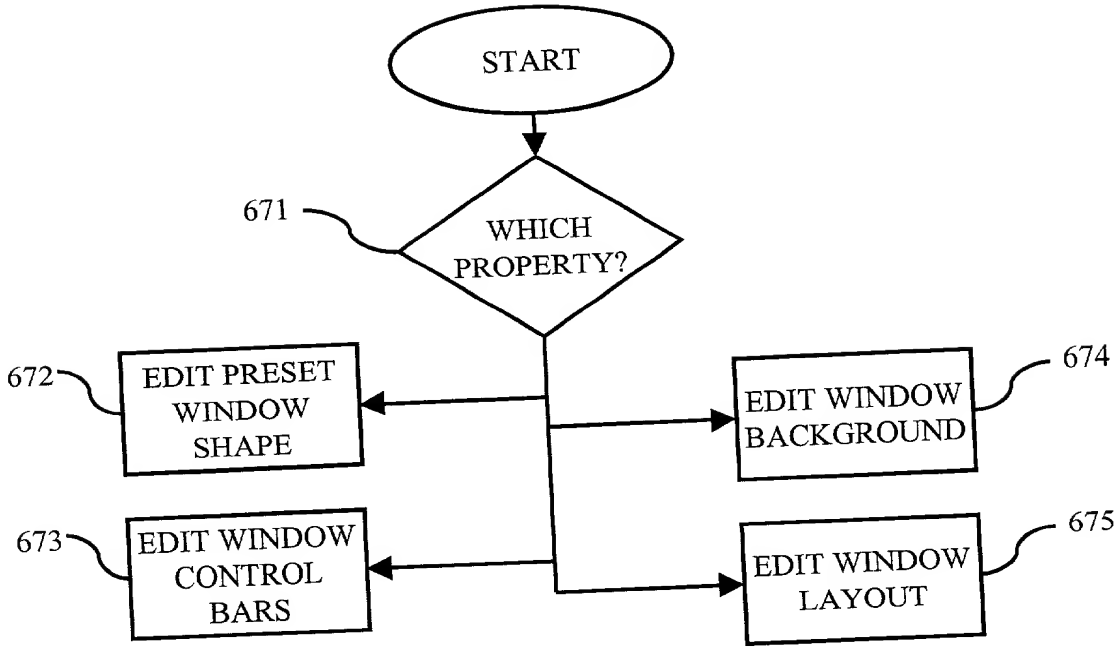
650

Fig. 37



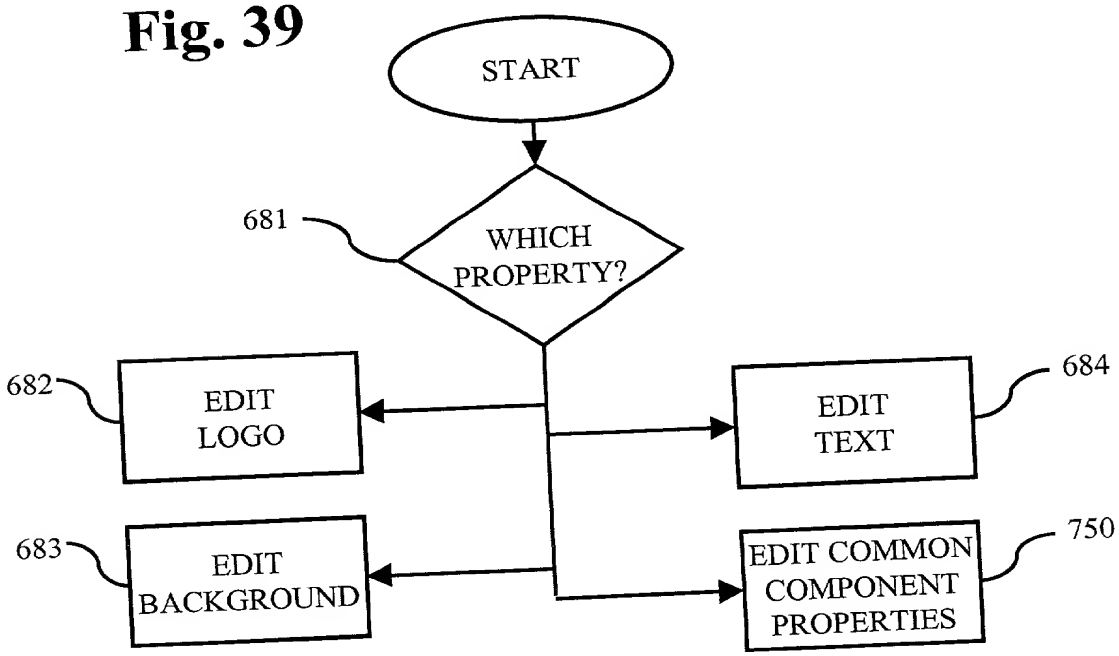
660

Fig. 38



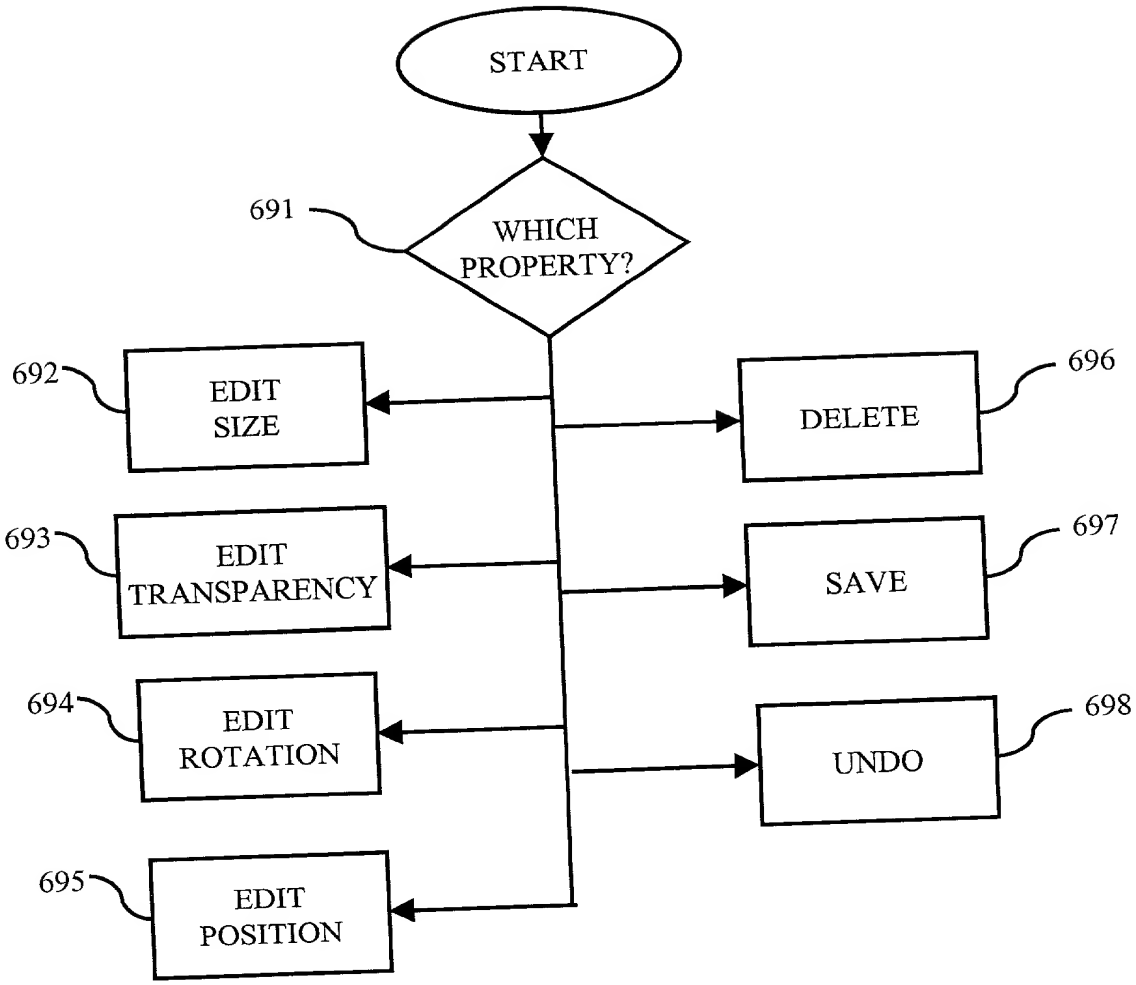
670

Fig. 39



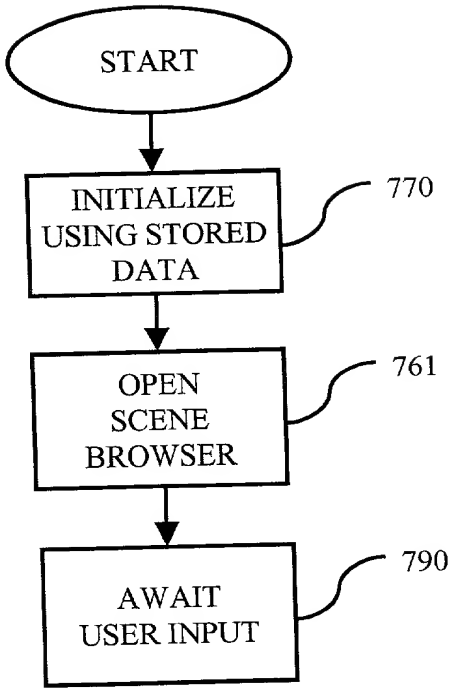
680

Fig. 40

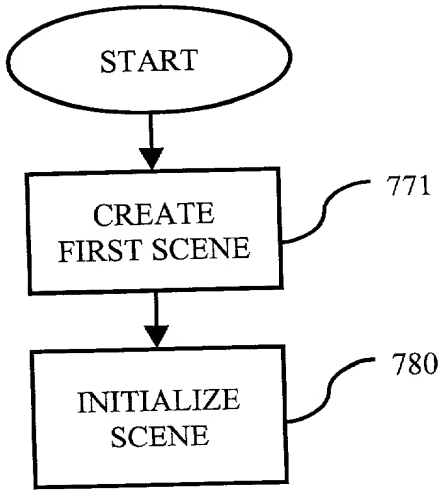

START
691
WHICH PROPERTY?
692
EDIT SIZE
693
EDIT TRANSPARENCY
694
EDIT ROTATION
695
EDIT POSITION
696
DELETE
697
SAVE
698
UNDO

690

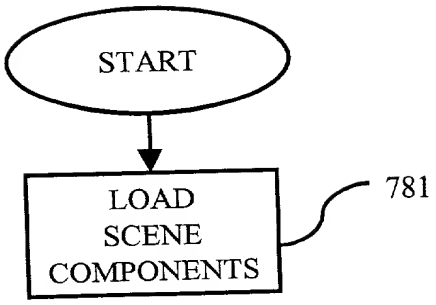
Fig. 41



760
Fig. 42

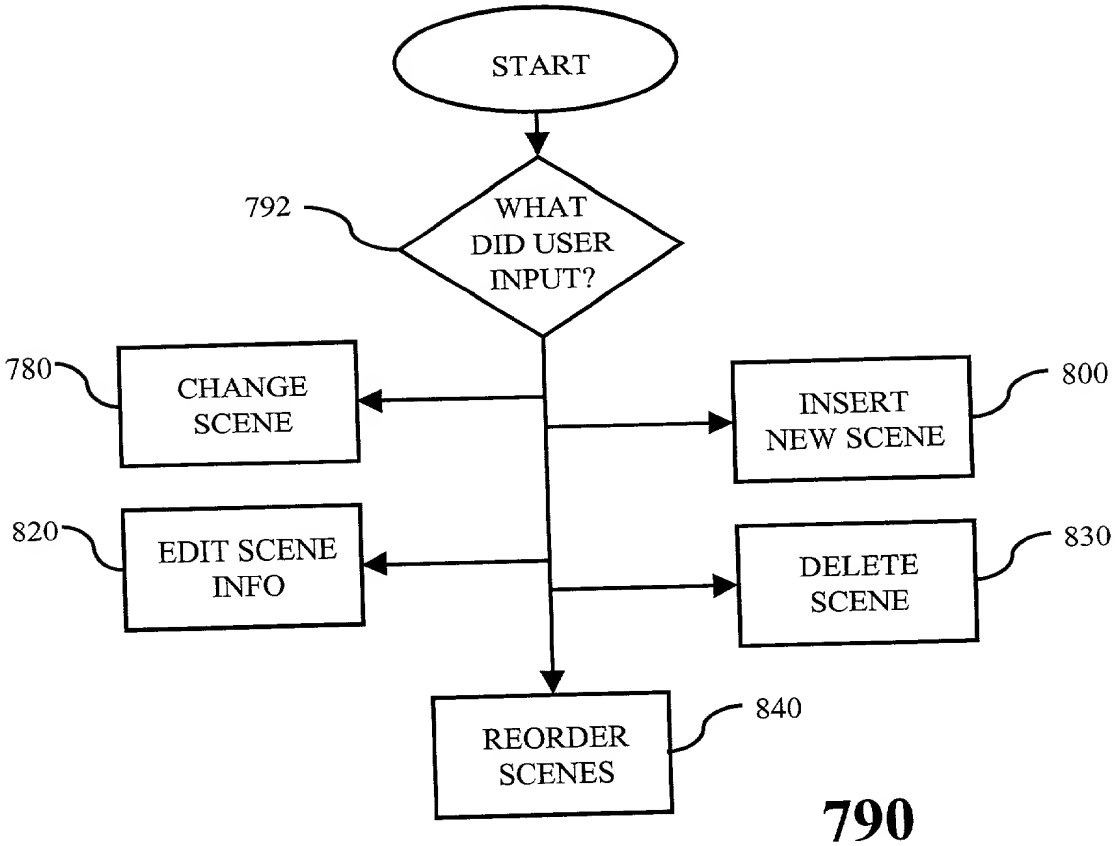


770
Fig. 43



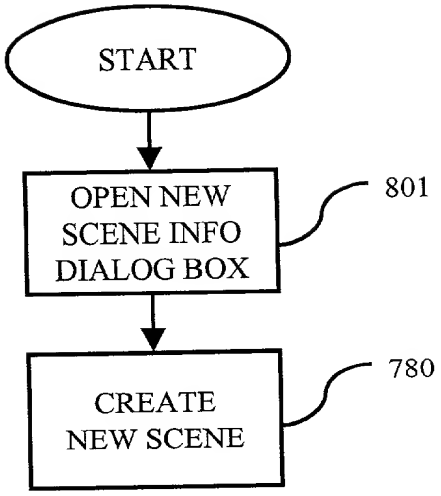
780

Fig. 44



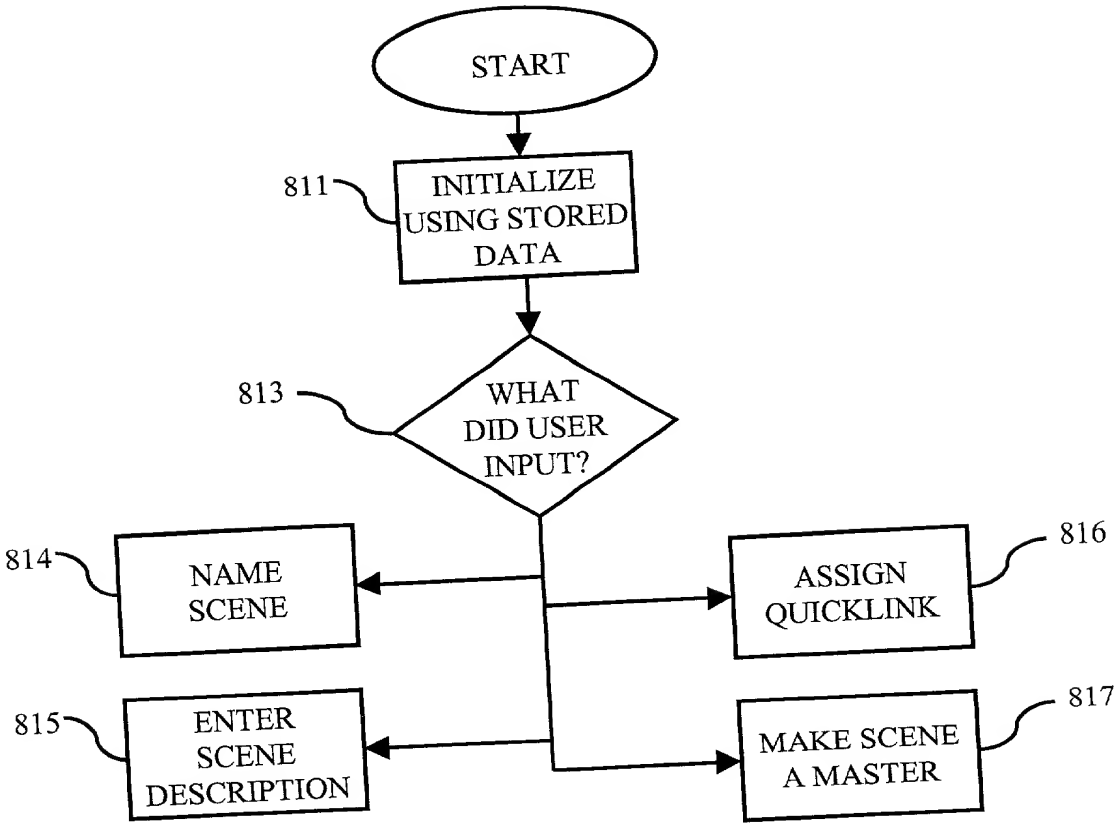
790

Fig. 45


START
OPEN NEW SCENE INFO DIALOG BOX
801
CREATE NEW SCENE
780

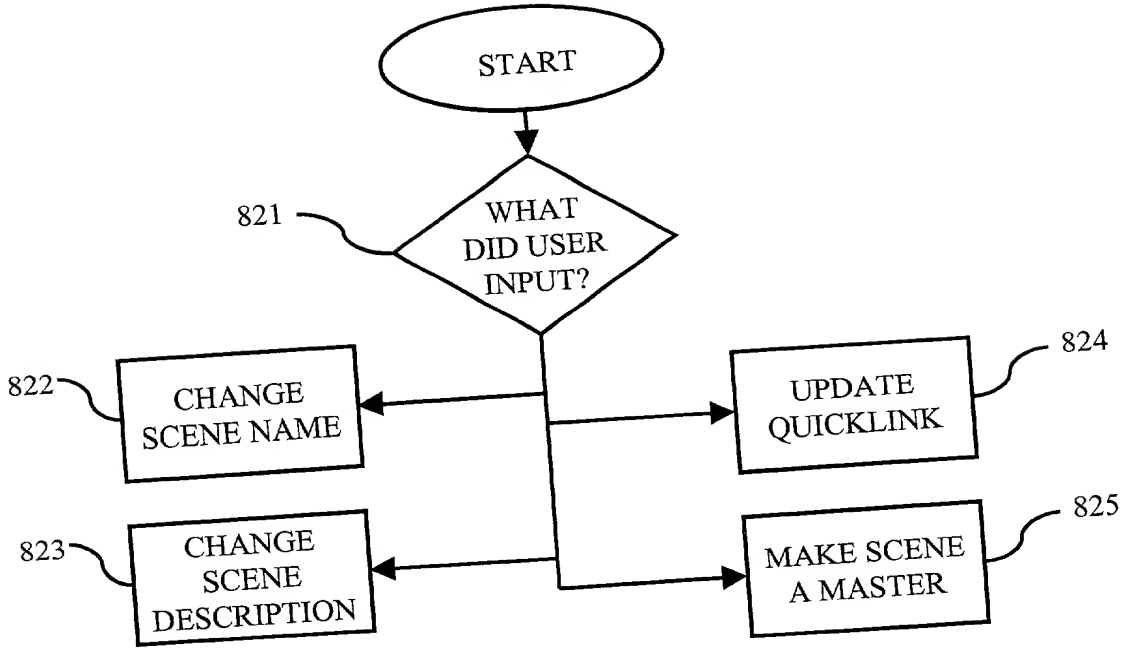
800

Fig. 46


START
811
INITIALIZE USING STORED DATA
813
WHAT DID USER INPUT?
814
NAME SCENE
815
ENTER SCENE DESCRIPTION
816
ASSIGN QUICKLINK
817
MAKE SCENE A MASTER

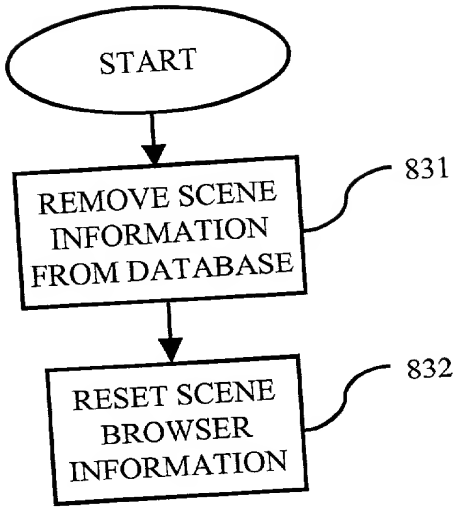
810

Fig. 47


START
821
WHAT DID USER INPUT?
822
CHANGE SCENE NAME
823
CHANGE SCENE DESCRIPTION
824
UPDATE QUICKLINK
825
MAKE SCENE A MASTER

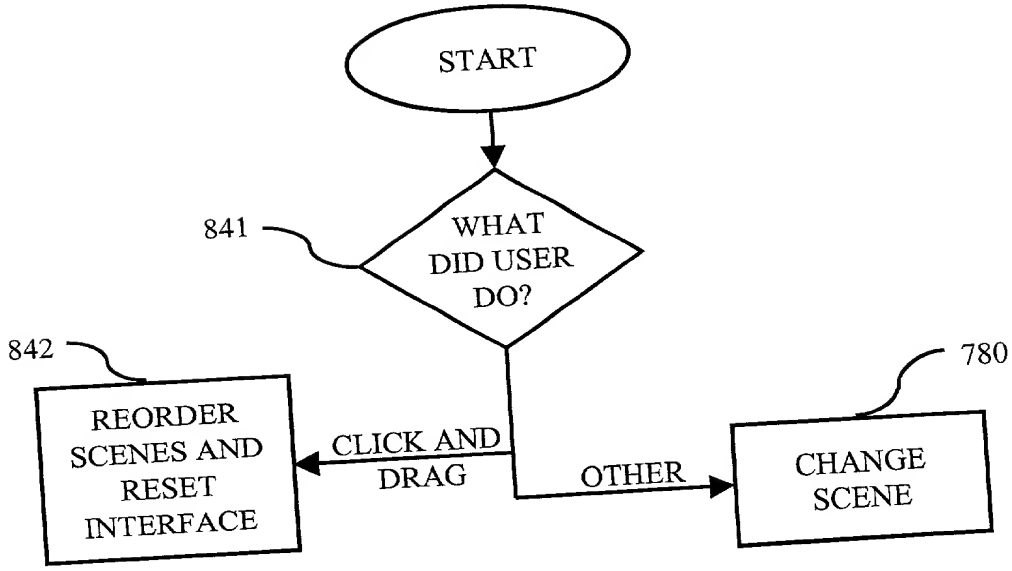
820

Fig. 48



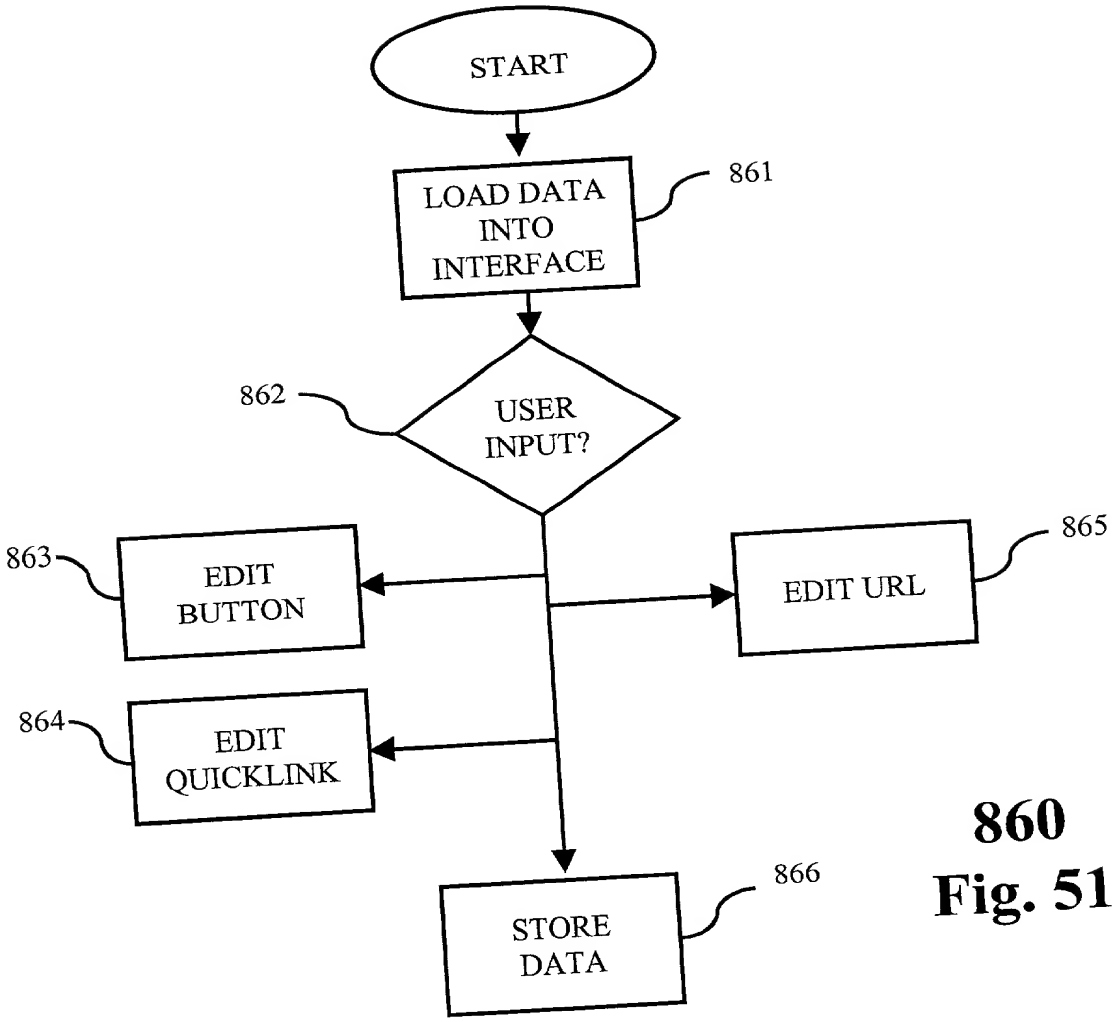
830

Fig. 49



840

Fig. 50


START
LOAD DATA INTO INTERFACE
861
862
USER INPUT?
863
EDIT BUTTON
865
EDIT URL
864
EDIT QUICKLINK
866
STORE DATA

860
Fig. 51

870	**Component Browser**													
C1	Is a Component Folder selected?		Yes	No										
C2	Does the Selected Folder contain other Folders?				Yes	No								
C3	Does the Selected Folder contain Components?						Yes	No						
C4	Is a Component selected?								Yes	No				
C5	Is the selected Component dropped over the Workspace?										Yes	No		
C6	Is a previous Header selected?												Yes	No
A1	Add Header		X											
A2	Remove selected Header												X	
A3	Display selected Folder Name in Header		X											
A4	Hide previous List contents		X										X	
A5	Show selected List contents		X										X	
A6	Display Folder Icon with List entry(s)				X									
A6	Display Draggable Icon with List entry(s)						X							
A7	Display Component Dragger bullseye								X					
A8	Load Component into Project										X			
	Disposition		C2	C6	C3	C3	C4	C1	C5	C4	Done	C1	C1	C1

Fig. 52 – Component Browser 870

871	Edit Size													
C1	Is a Preset Size selected?		Yes	No										
C2	Is Size selected with the Slider?				Yes	No								
C3	Is Size value entered in the textfield?						Yes	No						
C4	Is the Return key pressed?								Yes	No				
A1	Set user-defined Size		X		X				X					
A2	Set default Size			X		X		X						
	Disposition		Done	C2	Done	C3	C4	Done	Done	C1				

Fig. 53 – Edit Size 871

872	Edit Transparency													
C1	Is a Preset Transparency selected?		Yes	No										
C2	Is Transparency selected with the Slider?				Yes	No								
C3	Is Transparency value entered in the textfield?						Yes	No						
C4	Is the Return key pressed?								Yes	No				
A1	Set user-defined Transparency		X		X				X					
A2	Set default Transparency			X		X		X						
	Disposition		Done	C2	Done	C3	C4	Done	Done	C1				

Fig. 54 – Edit Transparency 872

873	Edit Rotation													
C1	Is a Preset Rotation selected?		Yes	No										
C2	Is Rotation selected with the Slider?				Yes	No								
C3	Is Rotation value entered in the textfield?						Yes	No						
C4	Is the Return key pressed?								Yes	No				
A1	Set user-defined Rotation		X		X				X					
A2	Set default Rotation			X		X								
	Disposition		Done	C2	Done	C3	C4	Done	Done	C1				

Fig. 55 – Edit Rotation 873

874	Edit Position													
C1	Is default Position button pressed?		Yes	No										
C2	Is Position changed with the draggable icon?				Yes	No								
C3	Is Position changed with the arrow keys?						Yes	No						
C4	Are Position values entered in the textfields?								Yes	No				
C5	Is Return/Enter pressed?										Yes	No		
A1	Set user-defined Position				X		X				X			
A2	Set default Position		X			X		X		X				
	Disposition		Done	C2	Done	C3	Done	C4	C5	Done	Done	C1		

Fig. 56 – Edit Position 874

875	**Edit Color**													
C1	Is a Color swatch selected?		Yes	No										
C2	Is Brightness selected with the Slider?				Yes	No								
C3	Is Brightness value entered in the textfield?						Yes	No						
C4	Is the Return key pressed?								Yes	No				
A1	Set user-defined Color		X											
A2	Set default Color			X										
A3	Set user-defined Brightness				X				X					
A3	Set default Brightness					X		X						
	Disposition		C2	C2	C3	C3	C4	Done	Done	C1				

Fig. 57 – Edit Color 875

876	**Edit Selection**													
C1	Is Selection selected?		Yes	No										
C2	Is Next/Previous arrow pressed?				Next	Prev	None							
A1	Set user-defined Selection		X											
A2	Set default Selection						X							
A3	Show next Selection				X									
A4	Show previous Selection					X								
	Disposition		Done	C2	C1	C1	Done							

Fig. 58 – Edit Selection 876

877	**Edit Content (for Paragraph component)**													
C1	Is Textfield content set?		Yes	No										
C2	Is Font selected?				Yes	No								
C3	Is Size selected?						Yes	No						
C4	Is Align selected?								Yes	No				
C5	Is Shape selected?										Yes	No		
C6	Is Apply pressed?												Yes	No
A1	Set user-defined Textfield content		X											
A2	Set default Textfield content			X										
A3	Set selected Font				X									
A4	Set default Font					X								
A5	Set selected Size						X							
A6	Set default Size							X						
A7	Set selected Alignment								X					
A8	Set default Alignment									X				
A9	Set selected Shape										X			
A1	Set default Shape											X		
A11	Set attributes												X	
	Disposition		C2	C2	C3	C3	C4	C4	C5	C5	C6	C6	Done	C1

Fig. 59 – Edit Content (for Paragraph components) 877

878	Edit QuickLink (for Button component)												
C1	Is QuickLink or URL selected?	QL	URL										
C2	Is a URL entered in the Textfield?			Yes	No								
C3	Is a Scene selected?					Yes	No						
C4	Is a Window selected?							New	Same				
C5	Is Accept pressed?									Yes	No		
A1	Set selected Scene					X							
A2	Set New Window							X					
A3	Set Same Window								X				
A4	Apply and save settings									X			
	Disposition	C3	C2	C4	C1	C5	C1	C5	C5	Done	C1		

Fig. 60 – Edit QuickLink (for Button components) 878

879	Edit Selection (for Button component)												
C1	Is a variation selected?	Yes	No										
C2	Is Button Label entered?			Yes	No								
C3	Is Accept pressed?					Yes	No						
A1	Set user-defined selection	X											
A2	Set default selection		X										
A3	Set user-defined Button Label content			X									
A4	Set default Button Label content				X								
	Disposition	C2	C2	C3	Done	Done	C1						

Fig. 61 – Edit Selection (for Button components) 879

880	Edit Content (for Line Effects components)													
C1	Is Textfield content set?		Yes	No										
C2	Is Font selected?				Yes	No								
C3	Is Apply pressed?						Yes	No						
A1	Set user-defined Textfield content		X											
A2	Set default textfield content			X										
A3	Set selected Font				X									
A4	Set default Font					X								
A5	Set attributes						X							
	Disposition		C2	C2	C3	C3	Done	C1						

Fig. 62 – Edit Content (for Line Effects components) 880

881	Edit Soundtrack									
C1	Is Soundtrack selected?	Yes	No							
C2	Is Volume level set?			Yes	No					
C3	Volume On/Off?					On	Off			
A1	Set default Soundtrack		X							
A2	Set Selected Soundtrack	X								
A3	Set default Volume level				X					
A4	Set selected Volume level			X						
A5	Play Soundtrack					X				
A6	Stop All Sounds						X			
	Disposition	C2	C2	C3	C3	Done	Done			

Fig. 63 – Edit Soundtrack 881

882	**Edit User Assets**									
C1	Is a User Asset selected?	Yes	No							
C2	Is Asset Data selected?			Yes	No					
C3	Is Remove selected?				Yes	No				
C4	Is Upload selected?					Yes	No			
C5	Is Refresh selected?						Yes	No		
C6	Is Accept selected							Yes	No	
A1	Display icon of selected User Asset	X								
A2	Display icon of first User Asset		X							
A3	Show/Hide Asset Data			X						
A4	Remove selected User Asset				X					
A5	Launch Upload Assets pop-up window					X				
A6	Reload User Asset information						X			
A7	Set selected User Asset							X		
	Disposition	C2	C2	C3	Done	C1	C1	Done	C1	

Fig. 64 – Edit User Assets 882

883	**Edit Content (for Character Effects component)**													
C1	Is Textfield Content set?		Yes	No										
C2	Is Font Selected?				Yes	No								
C3	Is Apply button pressed?						Yes	No						
A1	Set Textfield content		X											
A2	Set default Textfield content			X										
A3	Set selected Font				X									
A4	Set default Font					X								
A5	Apply settings						X							
	Disposition		C2	C2	C3	C3	Done	C1						

Fig. 65 – Edit Content (for Character Effects components) 883

884	**Edit Content (for Movie components)**														
C1	Is Movie selected?		Yes	No											
C2	Is Play ON?				Yes	No									
C3	Is Search Speed set?						Yes	No							
C4	Rewind / Fast Forward pressed?								Rewind	FFwd	None				
C5	Are Textfield contents entered?											Yes	No		
C6	Is Apply pressed?													Yes	No
A1	Set default Movie			X											
A2	Set Selected Movie		X												
A3	Play Movie				X										
A4	Stop Movie					X									
A5	Set default Search Speed							X							
A6	Set selected Search Speed						X								
A7	Rewind Movie								X						
A8	Fast Forward Movie									X					
A9	Set default Textfield contents													X	
A1	Set selected Textfield contents														
	Disposition		C2	C2	C3	C3	C4	C4	C5	C5	C5	C6	Done	Done	C1

Fig. 66 – Edit Content (for Movie components) 884

885	Edit Content (for Window components)													
C1	Is Window Title content set?		Yes	No										
C2	Is Textfield content set?				Yes	No								
C3	Is Apply pressed?						Yes	No						
A1	Set user-defined Window Title content		X											
A2	Set default Window title content			X										
A3	Set user-defined textfield content				X									
A4	Set default textfield content					X								
A6	Save and display settings						X							
	Disposition		C2	C2	C3	C3	Done	C1						

Fig. 67 – Edit Content (for Window components) 885

886	Edit Content (for Header component)													
C1	Is Textfield content set?		Yes	No										
C2	Is Font selected?				Yes	No								
C3	Is Size selected?						Yes	No						
C4	Is Apply pressed?								Yes	No				
A1	Set user-defined textfield content		X											
A2	Set default textfield content			X										
A3	Set selected Font				X									
A4	Set default Font					X								
A5	Set selected Size						X							
A6	Set default Size							X						
A7	Set attributes								X					
	Disposition		C2	C2	C3	C3	C4	C4	Done	C1				

Fig. 68 – Edit Content (for Header components) 886

887	Scale/Position Handles												
C1	Is a component selected in the Layers Browser?	Yes	No										
C2	Is the hit area selected?			Yes	No								
C3	Is a corner handle selected?					Yes	No						
C4	Is the left or right handle selected?							Yes	No				
C5	Is the top or bottom handle selected?									Yes	No		
C6	Is the component QuickLinkable?											Yes	No
A1	Set user-defined component	X											
A2	Set default component (Layer 1 component)		X										
A3	Reposition component			X									
A4	Resize X-scale of component					X		X					
A5	Resize Y-scale of component					X				X			
A6	Show QuickLink information											X	
A7	Hide QuickLink information												X
	Disposition	C2	C2	C3	C3	C6	C4	C6	C5	C6	C6	Done	Done

Fig. 69 – Scale/Position Handles 887

888	**Start Depth Browser** **Depth Browser**							
C1	Is Depth Browser open?	No		Yes				
C2	Open tab clicked?	No	Yes					
A1	Open Depth Browser		✓					
A2	Load component list from current scene		✓					
A3	Display components in top to bottom (front to back) order		✓	✓				
A4	Wait for user input **889**		✓	✓				
	D I S P O S I T I O N	C1	C1	Done				

Fig. 70 – Start Depth Browser 888

889	**Wait User Input** **Depth Browser**						
C1	User Input?	Drag In New Comp	Drag Comp	Vis Btn	Lock Btn	Sel Comp	Cls Tab
A1	Place new component on top	✓					
A2	Change depth of component being dragged (cannot drag a locked component)		✓				
A3	Toggle component's visibility			✓			
A4	Toggle component lock				✓		
A5	Apply Unified GUI interfaces to selected component (**871** to **887** as applicable)					✓	
A6	Reload component list from current scene	✓	✓				
A7	Redisplay components in top to bottom (front to back) order	✓	✓	✓			
A8	Close Depth Browser Panel						✓
	D I S P O S I T I O N	C1	C1	C1	C1	C1	Done

Fig. 71 – Wait User Input 889

890	**Layers Window Opening and Closing**								
C1	Is window being opened?	Y	N						
C2	Is (new) scene selected?			Y	N				
C3	Is window being closed?					Y	N		
C4	Is mouse over the window?							Y	N
A1	Open Window	✓							
A2	Load objects from scene			✓					
A3	Close Window					✓			
A4	Select Object (**891**)							✓	
	D I S P O S I T I O N	C2	C1	C3	C3	C1	C4	C2	C2

Fig. 72 – Layers Window Opening and Closing 890

891	**Layers Window Select Object**								
C1	Is mouse over an unselected, unlocked object?	Y	N						
C2	Was mouse clicked?			Y	N				
C3	Is mouse over a selected, unlocked object?					Y	N		
C4	Was mouse clicked?							Y	N
A1	Highlight object line in orange	✓							
A2	Unselect previously selected object, if any Unhighlight object back to gray Remove arrows from life bar			✓					
A3	Select new object, Highlight object line in green, Place arrows on life bar			✓					
A4	Edit Object (**893**)			✓				✓	
A5	Select Scene Time (**892**)							✓	✓
	D I S P O S I T I O N	C2	C3	D	C3	C4	D	D	D

Fig. 73 – Select Object 891

892	**Layers Window** **Select Scene Time**								
C1	Is mouse over total scene time?	Y	N						
C2	Was mouse clicked?			Y	N				
C3	Was valid time entered?					Y	N		
A1	Pop up Scene Time entry window	✓							
A2	Accept user typein of scene time			✓			✓		
A3	Process new scene time Repaint tickmarks in window header Repaint object life bars					✓			
A4	Remove Scene Time entry window				✓	✓			
	D I S P O S I T I O N	C2	D	C3	D	D	C3		

Fig. 74 – Select Scene Time 892

893	**Layers Window** **Edit Object**								
C1	Was mouse clicked?	Y	N						
C2	Is drag being performed?			Y	N				
C3	Was visibility button clicked?					Y	N		
C4	Was lock button clicked?							Y	N
A1	Process Drag (**894**)			✓					
A2	Process Vis Button (**895**)					✓			
A3	Process Lock Button (**896**)							✓	
	D I S P O S I T I O N	C2	D	D	C3	D	C4	D	D

Fig. 75 – Edit Object 893

894	**Layers Window** **Process Drag**								
C1	Is object being dragged vertically?	Y	N						
C2	Is object life bar left arrow being dragged?			Y	N				
C3	Is object life bar right arrow being dragged?				Y	N			
C4	Is object life bar as a whole being dragged?					Y	N		
A1	Move object to new front to back display position	✓							
A2	Redisplay scene in correct order	✓							
A3	Change object start time and duration Resize life bar accordingly			✓					
A4	Change object end time and duration Resize life bar accordingly				✓				
A5	Move object start and end times in tandem Duration remains unchanged Reposition life bar accordingly					✓			
	D I S P O S I T I O N	D	D	D	D	D	D		

Fig. 76 – Process Drag 894

895	**Layers Window** **Process Vis Button**								
C1	Was object visible?	Y	N						
A1	Make object invisible	✓							
A2	Gray out button	✓							
A3	Make object visible		✓						
A4	Turn button green		✓						
	D I S P O S I T I O N	D	D						

Fig. 77 – Process Visibility Button 895

896	**Layers Window** **Process Lock Button**								
C1	Was object locked?	Y	N						
A1	Unlock object	✓							
A2	Set gray dot for button	✓							
A3	Lock object		✓						
A4	Set gray lock icon for button		✓						
	D I S P O S I T I O N	D	D						

Fig. 78 – Process Lock Button 896

900 .	Asset Manager								
C1	Enter	Yes							
A1	Load Asset Manager Components (1100)	✓							
A2	Init all Asset Manager Components	✓							
A3	Start Idle Loop (901)	✓							
	D I S P O S I T I O N	Done							

Fig. 79 – Asset Manager 900

901 .	Idle Loop								
C1	Enter at frame 1	Yes							
C2	Does frame number equal control variable?		No		Yes				
C3	Is this the last frame?		No	Yes					
A1	Advance to next frame		✓						
A2	Call Load Check (920)	✓	✓						
A3	Call Request Scanner (910)	✓							
A4	Jump back to frame 1			✓	✓				
	D I S P O S I T I O N	C2	C2	C1	C1				

Fig. 80 – Idle Loop 901

910	**Request Scanner**								
C1	Enter	Yes							
C2	Are there requests to process?		No	Yes					
L3	Loop through all scheduled requests			Ent	Loop		Exit		
C4	More to process?				Yes	No			
A1	Call Scheduler (930)	✓							
A2	Pick Request				✓				
A3	Process Request (911)				✓				
	D I S P O S I T I O N	C2	Done	L3 Loop	L3 Loop	L3 Exit	Done		

Fig. 81 – Request Scanner 910

911	**Request Scanner - continued** **Process Request**								
C1	General request type?	Reg	Load	Play	Posn	State	Loc Vol	Glob Vol	Other
A1	Call Registration Request Processor (940)	✓							
A2	Call Load Request Processor (950)		✓						
A3	Call Play Request Processor (960)			✓					
A4	Call Position Request Processor (970)				✓				
A5	Call State Request Processor (980)					✓			
A6	Call Local Volume Request Processor (990)						✓		
A7	Call Global Volume Request Processor (1000)							✓	
A8	Return error response to requestor								✓
	D I S P O S I T I O N	Done	Done	Done	Done	Done	Done	Done	Done

Fig. 82 – Process Request 911

920	**Load Check**								
L1	Loop through all clips being loaded	Ent	Loop				Exit		
C2	More clips to check?		Yes	No					
C3	Are all frames loaded?				Yes	No			
A1	Pick clip		✓						
A2	Get frames loaded for clip		✓						
A3	Set slot identification into clip				✓				
A4	Mark clip load finished in check list				✓				
A5	Set clip state to loaded				✓				
A6	Remove finished clips from check list						✓		
	D I S P O S I T I O N	L1 Loop	C3	L1 Exit	L1 Loop	L1 Loop	Done		

Fig. 83 – Load Check 920

930	**Scheduler**								
C1	Enter	Yes							
C2	Are intensive task(s) in progress?		Yes	No					
A1	Transfer requests from reschedule list to schedule list	✓							
A2	Set reschedule list empty	✓							
A3	Schedule Intensive Task Request (931)		✓						
A4	Process Request List (932)			✓					
A5	Empty request list			✓					
	D I S P O S I T I O N	C2	Done	Done					

Fig. 84 – Scheduler 930

931 .	Scheduler Schedule Intensive Task Request								
C1	Is there an internal request for an intensive task?	Yes	No						
C2	Is there a request from an intensive task?		Yes	No					
A1	Add Intensive Task request to schedule list	✓	✓						
	D I S P O S I T I O N	Done	Done	Done					

Fig. 85 – Schedule Intensive Task 931

932 .	Scheduler Process Request List								
L1	Loop through request list	Ent	Loop					Exit	
C2	More slots in request list?		Yes	No					
C3	Is there an internal request in the slot?				Yes	No			
C4	Is there an external request in the slot?					Yes	No		
A1	Pick slot		✓						
A2	Add request to schedule list				✓	✓			
	D I S P O S I T I O N	L1 Loop	C3	L1 Exit	L1 Loop	L1 Loop	L1 Loop	Done	

Fig. 86 – Process Request List 932

940	Registration Request Processor								
C1	Request type?	Reg	Re reg	Un reg	Query Reg	No Req	Oth		
A1	Process Register (941)	✓							
A2	Process Reregister (942)		✓						
A3	Process Unregister (943)			✓					
A4	Process Query Register (944)				✓				
A5	Ignore No Request					✓			
A6	Return error response to requestor						✓		
	D I S P O S I T I O N	Done	Done	Done	Done	Done	Done		

Fig. 87 – Registration Request Processor 940

941	Registration Request Processor Process Register								
C1	Enter	Yes							
C2	Any argument errors?		No	Yes					
A1	Assign slot and initialize it	✓							
A2	Get arguments	✓							
A3	Assign arguments to the slot including: name, type, URL, instance name, attributes, permissions, parent, obey, URLs for cycle and bandwidth		✓						
A4	Set status as registered		✓						
A5	Return OK response to requestor		✓						
A6	Return error response to requestor			✓					
	D I S P O S I T I O N	C2	Done	Done					

Fig. 88 – Process Register 941

942	Registration Request Processor Process Reregister								
C1	Is clip currently registered?	Yes		No					
C2	Do permissions allow reregistration?	No	Yes						
C3	Any argument errors?				No	Yes			
A1	Assign slot and initialize it			✓					
A2	Get arguments		✓	✓					
A3	Assign arguments to the slot including: name, type, URL, instance name, attributes, permissions, parent,				✓				
A4	Set status as registered				✓				
A5	Return OK response to requestor				✓				
A6	Return error response to requestor	✓				✓			
	D I S P O S I T I O N	Done	C3	C3	Done	Done			

Fig. 89 – Process Reregister 942

943	Registration Request Processor Process Unregister								
C1	Is clip currently registered?	Yes				No			
C2	Do permissions allow unregistration?	No	Yes						
C3	Is clip playing?		No	Yes					
C4	Is clip loaded?		No	Yes					
A1	Stop clip play				✓				
A2	Unload clip			✓	✓				
A3	Set status as unregistered		✓	✓	✓				
A4	Return OK response to requestor		✓	✓	✓				
A5	Return error response to requestor	✓				✓			
	D I S P O S I T I O N	Done	Done	Done	Done	Done			

Fig. 90 – Process Unregister 943

944	Registration Request Processor Process Query Register									
C1	Query by slot?	Yes	No							
C2	Query by name?		Yes	No						
C3	Query by instance name?			Yes	No					
C4	Query by URL?				Yes	No				
C5	Was clip found?						Yes		No	
C6	Is clip registered?						Yes	No		
A1	Find slot	✓								
A2	Find clip by name		✓							
A3	Find clip by instance name			✓						
A4	Find clip by URL				✓					
A5	Return slot and True response to requestor							✓		
A6	Return False response to requestor							✓		
A7	Return error response to requestor					✓			✓	
	D I S P O S I T I O N	C5	C5	C5	C5	Done	Done	Done	Done	

Fig. 91 – Process Query Register 944

950	**Load Request Processor**								
C1	Request type?	Load	Un load	Query Load	Query Frm	Oth			
A1	Process Load (951)	✓							
A2	Process Unload (952)		✓						
A3	Process Query Load (953)			✓					
A4	Process Query Frames Loaded (954)				✓				
A5	Return error response to requestor					✓			
	D I S P O S I T I O N	Done	Done	Done	Done	Done			

Fig. 92 – Load Request Processor 950

951 .	Load Request Processor Process Load								
C1	Is target clip registered?	Yes			No				
C2	Is bandwidth hogging in effect?	Yes		No					
C3	Is requestor clip a bandwidth hog?	Yes	No						
C4	Any argument errors?					Yes	No		
C5	Do permissions allow load?						Yes		No
C6	Requestor supplying destination instance?						No	Yes	
A1	Get arguments	✓		✓					
A2	Put request onto reschedule list		✓						
A3	Create local instance at specified depth on the specified level						✓		
A4	Pick target clip variant (if any) based on cycle and bandwidth environment (Cycle Category and Bandwidth						✓	✓	
A5	Initiate target clip load						✓	✓	
A6	Add target clip to load list for Load Check (920)						✓	✓	
A7	Return OK response to requestor						✓	✓	
A8	Return error response to requestor				✓	✓			✓
	D I S P O S I T I O N	C4	Done	C4	Done	Done	Done	Done	Done

Fig. 93 – Process Load 951

952 .	Load Request Processor Process Unload								
C1	Is clip loaded?	Yes			No				
C2	Do permissions allow load?	Yes		No					
C3	Is clip playing?	Yes	No						
A1	Stop clip play	✓							
A2	Propagate unload to clip's children that obey	✓	✓						
A3	Initiate target clip unload	✓	✓						
A4	Set clip state as unloaded	✓	✓						
A5	Return OK response to requestor	✓	✓						
A6	Return error response to requestor			✓	✓				
	D I S P O S I T I O N	Done	Done	Done	Done				

Fig. 94 – Process Unload 952

953 .	Load Request Processor Process Query Load								
C1	Is clip loaded?	Yes	No						
A1	Return True response to requestor	✓							
A2	Return False response to requestor		✓						
	D I S P O S I T I O N	Done	Done						

Fig. 95 – Process Query Load 953

954	Load Request Processor Process Query Load Frame								
C1	Is clip loading or loaded?	Yes	No						
A1	Return frames loaded count to requestor	✓							
A2	Return error response to requestor		✓						
	D I S P O S I T I O N	Done	Done						

Fig. 96 – Process Query Frames Loaded 954

960	Play Request Processor								
C1	Request type?	Play	Paus	Stop	Query Play	Query Frm	Oth		
A1	Process Play (961)	✓							
A2	Process Pause (962)		✓						
A3	Process Stop (963)			✓					
A4	Process Query Play (964)				✓				
A5	Process Query Frame (965)					✓			
A6	Return error response to requestor						✓		
	D I S P O S I T I O N	Done	Done	Done	Done	Done	Done		

Fig. 97 – Play Request Processor 960

961 .	Play Request Processor Process Play								
C1	Is clip loaded?	Yes		No					
C2	Do permissions allow play?	Yes	No						
A1	Call clip's play routine	✓							
A2	Propagate play to clip's children that obey	✓							
A3	Set clip state as playing	✓							
A4	Return OK response to requestor	✓							
A5	Return error response to requestor		✓	✓					
	D I S P O S I T I O N	Done	Done	Done					

Fig. 98 – Process Play 961

962 .	Play Request Processor Process Pause								
C1	Is clip playing?	Yes		No					
C2	Do permissions allow pause?	Yes	No						
A1	Call clip's pause routine	✓							
A2	Propagate pause to clip's children that obey	✓							
A3	Set clip state as paused	✓							
A4	Return OK response to requestor	✓							
A5	Return error response to requestor		✓	✓					
	D I S P O S I T I O N	Done	Done	Done					

Fig. 99 – Process Pause 962

963 .	Play Request Processor Process Stop								
C1	Is clip playing or paused?	Yes		No					
C2	Do permissions allow stop?	Yes	No						
A1	Call clip's stop routine	✓							
A2	Propagate stop to clip's children that obey	✓							
A3	Set clip state as stopped	✓							
A4	Return OK response to requestor	✓							
A5	Return error response to requestor		✓	✓					
	D I S P O S I T I O N	Done	Done	Done					

Fig. 100 – Process Stop 963

964 .	Play Request Processor Process Query Play								
C1	Is clip playing?	Yes	No						
A1	Return True response to requestor	✓							
A2	Return False response to requestor		✓						
	D I S P O S I T I O N	Done	Done						

Fig. 101 – Process Query Play 964

965	Play Request Processor Process Query Play Frame								
C1	Is clip playing, paused or stopped?	Yes	No						
A1	Return current play frame to requestor	✓							
A2	Return OK response to requestor	✓							
A3	Return zero as play frame to requestor		✓						
A4	Return error response to requestor		✓						
	D I S P O S I T I O N	Done	Done						

Fig. 102 – Process Query Play Frame 965

970	Position Request Processor								
C1	Request type?	FF	Re wind	Query Rew	Oth				
A1	Process Fast Forward (971)	✓							
A2	Process Rewind (972)		✓						
A3	Process Query Rewound (973)			✓					
A4	Return error response to requestor				✓				
	D I S P O S I T I O N	Done	Done	Done	Done				

Fig. 103 – Position Request Processor 970

971 .	Position Request Processor Process Fast Forward								
C1	Is clip loaded?	Yes		No					
C2	Do permissions allow fast forward?	Yes	No						
A1	Call clip's fast forward routine	✓							
A2	Propagate fast forward to clip's children that obey	✓							
A3	Return OK response to requestor	✓							
A4	Return error response to requestor		✓	✓					
	D I S P O S I T I O N	Done	Done	Done					

Fig. 104 – Process Fast Forward 971

972 .	Position Request Processor Process Rewind								
C1	Is clip loaded?	Yes		No					
C2	Do permissions allow rewind?	Yes	No						
A1	Call clip's rewind routine	✓							
A2	Propagate rewind to clip's children that obey	✓							
A3	Return OK response to requestor	✓							
A4	Return error response to requestor		✓	✓					
	D I S P O S I T I O N	Done	Done	Done					

Fig. 105 – Process Rewind 972

973	Position Request Processor Process Query Rewound								
C1	Is clip at first frame?	Yes	No						
A1	Return True response to requestor	✓							
A2	Return False response to requestor		✓						
	D I S P O S I T I O N	Done	Done						

Fig. 106 – Process Query Rewound 973

987	State Request Processor								
C1	Request type?	Cyc Pig On	Cyc Pig Off	BW Hog On	BW Hog Off	Query State	Qry Cyc Pig	Qry BW Hig	Oth
A1	Process Cycle Pig On (981)	✓							
A2	Process Cycle Pig Off (982)		✓						
A3	Process Bandwidth Hog On (983)			✓					
A4	Process Bandwidth Hog Off (984)				✓				
A5	Process Query State (985)					✓			
A5	Process Query Cycle Pig (986)						✓		
A5	Process Query Bandwidth Hog (987)							✓	
A6	Return error response to requestor								✓
	D I S P O S I T I O N	Done	Done	Done	Done	Done	Done	Done	Done

Fig. 107 – State Request Processor 980

981 .	State Request Processor Process Cycle Pig On								
C1	Is clip loaded?	Yes	No						
C2	Any argument errors?			Yes	No				
C3	Are sufficient cycles available?				Yes	No			
A1	Get arguments	✓							
A2	Deduct clip requirements from cycles available				✓				
A3	Add clip to intensive task list				✓				
A4	Return OK response to requestor				✓				
A5	Return error response to requestor		✓	✓		✓			
	D I S P O S I T I O N	C2	Done	Done	Done	Done			

Fig. 108 – Process Cycle Pig On 981

982 .	State Request Processor Process Cycle Pig Off								
C1	Is clip loaded?	Yes		No					
C3	Is clip on intensive task list?	Yes	No						
A1	Remove clip from intensive task list	✓							
A2	Restore clip requirements to cycles available	✓							
A3	Return OK response to requestor	✓							
A4	Return error response to requestor		✓	✓					
	D I S P O S I T I O N	Done	Done	Done					

Fig. 109 – Process Cycle Pig Off 982

983 .	State Request Processor Process Bandwidth Hog On								
C1	Is clip loaded?	Yes	No						
C2	Any argument errors?			Yes	No				
C3	Is sufficient bandwidth available?				Yes	No			
A1	Get arguments	✓							
A2	Deduct clip requirements from bandwidth available				✓				
A3	Add clip to high bandwidth task list				✓				
A4	Return OK response to requestor				✓				
A5	Return error response to requestor		✓	✓		✓			
	D I S P O S I T I O N	C2	Done	Done	Done	Done			

Fig. 110 – Process Bandwidth Hog On 983

984 .	State Request Processor Process Bandwidth Hog Off								
C1	Is clip loaded?	Yes		No					
C3	Is clip on high bandwidth list?	Yes	No						
A1	Remove clip from high bandwidth task list	✓							
A2	Restore clip requirements to bandwidth available	✓							
A3	Return OK response to requestor	✓							
A4	Return error response to requestor		✓	✓					
	D I S P O S I T I O N	Done	Done	Done					

Fig. 111 – Process Bandwidth Hog Off 984

985	State Request Processor Process Query State								
C1	Is clip loaded?	Yes	No						
C2	Is clip on intensive task list?			Yes	No				
C3	Is clip on high bandwidth task list?					Yes	No		
A1	Return clip state to requestor	✓							
A2	Return Intensive Task True response to requestor			✓					
A3	Return Intensive Task False response to requestor				✓				
A4	Return High Bandwidth Task True response to requestor					✓			
A5	Return High Bandwidth Task False response to requestor						✓		
A6	Return OK response to requestor					✓	✓		
A7	Return error response to requestor		✓						
	D I S P O S I T I O N	C2	Done	C3	C3	Done	Done		

Fig. 112 – Process Query State 985

986	State Request Processor Process Query Cycle Pig								
C1	Is any clip on intensive task list?	Yes	No						
A1	Return True response to requestor	✓							
A2	Return cycles available to requestor	✓							
A3	Return False response to requestor		✓						
	D I S P O S I T I O N	Done	Done						

Fig. 113 – Process Query Cycle Pig 986

987 .	State Request Processor Process Query Bandwidth Hog								
C1	Is any clip on high bandwidth task list?	Yes	No						
A1	Return True response to requestor	✓							
A2	Return bandwidth available to requestor	✓							
A3	Return False response to requestor		✓						
	D I S P O S I T I O N	Done	Done						

Fig. 114 – Process Query Bandwidth Hog 987

990 .	Local Volume Request Processor								
C1	Request type?	Set Loc Vol	Loc Vol On	Loc Vol Off	Query Loc Vol	Oth			
A1	Process Set Local Volume (991)	✓							
A2	Process Turn Local Volume On (992)		✓						
A3	Process Turn Local Volume Off (993)			✓					
A4	Process Query Local Volume (994)				✓				
A5	Return error response to requestor					✓			
	D I S P O S I T I O N	Done	Done	Done	Done	Done			

Fig. 115 – Local Volume Request Processor 990

991 .	**Local Volume Request Processor Process Set Local Volume**								
C1	Is clip loaded?	Yes		No					
C2	Do permissions allow local volume control?	Yes	No						
C3	Is Global Volume ON?				Yes		No		
C4	Is Local Volume ON?				Yes	No			
A1	Get volume argument	✓							
A2	Call clip's set sound volume routine				✓				
A3	Save sound volume in clip's slot				✓	✓	✓		
A5	Return OK response to requestor				✓	✓	✓		
A6	Return error response to requestor		✓	✓					
	D I S P O S I T I O N	C3	Done	Done	Done	Done	Done		

Fig. 116 – Process Set Local Volume 991

992 .	**Local Volume Request Processor Process Turn Local Volume On**								
C1	Is clip loaded?	Yes			No				
C2	Do permissions allow local volume control?	Yes		No					
C3	Is Global Volume ON?	Yes	No						
A1	Call clip's set sound volume routine	✓							
A2	Set volume ON in clip's slot	✓	✓						
A3	Propagate volume ON to clip's children that obey	✓	✓						
A4	Return OK response to requestor	✓	✓						
A5	Return error response to requestor			✓	✓				
	D I S P O S I T I O N	Done	Done	Done	Done				

Fig. 117 – Process Local Volume On 992

993 .	Local Volume Request Processor Process Turn Local Volume Off								
C1	Is clip loaded?	Yes			No				
C2	Do permissions allow local volume control?	Yes		No					
C3	Is Global Volume ON?	Yes	No						
A1	Call clip's set sound volume routine	✓							
A2	Set volume OFF in clip's slot	✓	✓						
A3	Propagate volume OFF to clip's children that obey	✓	✓						
A4	Return OK response to requestor	✓	✓						
A5	Return error response to requestor			✓	✓				
	D I S P O S I T I O N	Done	Done	Done	Done				

Fig. 118 – Process Local Volume Off 993

994 .	Local Volume Request Processor Process Query Local Volume								
C1	Is clip loaded?	Yes	No						
A1	Return clip's local sound volume to requestor	✓							
A2	Return clip's on/off status to requestor	✓							
A3	Return OK response to requestor	✓							
A4	Return error response to requestor		✓						
	D I S P O S I T I O N	Done	Done						

Fig. 119 – Process Query Local Volume 994

1000 .	**Global Volume Request Processor**								
C1	Request type?	Set Gbl Vol	Gbl Vol On	Gbl Vol Off	Query Gbl Vol	Oth			
A1	Process Set **Global** Volume (1001)	✓							
A2	Process Turn **Global** Volume On (1002)		✓						
A3	Process Turn **Global** Volume Off (1003)			✓					
A4	Process Query **Global** Volume (1004)				✓				
A5	Return error response to requestor					✓			
	D I S P O S I T I O N	Done	Done	Done	Done	Done			

Fig. 120 – Global Volume Request Processor 1000

1001 .	**Global Volume Request Processor** **Process Set Global Volume**								
C1	Do permissions allow global volume control?	Yes	No						
C2	Is Global Volume ON?			Yes	No				
A1	Get volume argument and convert to the fraction of the maximum volume (between 0.0 and 1.0)	✓							
A2	Save global volume and fraction	✓							
A3	Process Turn Global Volume On (1002) to invoke new volume level			✓					
A4	Return OK response to requestor			✓	✓				
A5	Return error response to requestor		✓						
	D I S P O S I T I O N	C2	Done	Done	Done				

Fig. 121 – Process Set Global Volume 1001

1002 .	**Global Volume Request Processor Process Turn Global Volume On**								
C1	Do permissions allow global volume control?	Yes	No						
L2	Loop through all clips			Ent	Loop				Exit
C3	More clips?				Yes	No			
C4	Is clip local volume ON?						Yes	No	
A1	Set global sound volume ON	✓							
A2	Get next clip				✓				
A3	Call clip's set sound volume routine (with clip's volume level argument)						✓		
A4	Return OK response to requestor								✓
A5	Return error response to requestor		✓						
	D I S P O S I T I O N	L2 Ent	Done	L2 Loop	C4	L2 Exit	L2 Loop	L2 Loop	Done

Fig. 122 – Process Global Volume On 1002

1003 .	**Global Volume Request Processor Process Turn Global Volume Off**								
C1	Do permissions allow global volume control?	Yes	No						
L2	Loop through all clips			Ent	Loop				Exit
C3	More clips?				Yes	No			
C4	Is clip local volume ON?						Yes	No	
A1	Set global sound volume OFF	✓							
A2	Get next clip				✓				
A3	Call clip's set sound volume routine (with zero argument)						✓		
A4	Return OK response to requestor								✓
A5	Return error response to requestor		✓						
	D I S P O S I T I O N	L2 Ent	Done	L2 Loop	C4	L2 Exit	L2 Loop	L2 Loop	Done

Fig. 123 – Process Global Volume Off 1003

1004	**Global Volume Request Processor Process Query Global Volume**								
C1	Global Volume?	ON	OFF						
A1	Return global sound ON status to requestor	✓							
A2	Return global sound OFF status to requestor		✓						
A3	Return global volume level to requestor	✓	✓						
A4	Return OK response to requestor	✓	✓						
	D I S P O S I T I O N	Done	Done						

Fig. 124 – Process Query Global Volume 1004

1100	**Load Asset Manager Components**								
C1	Enter	Yes							
A1	Process Dup List (1101)	✓							
A2	Load Network Bandwidth Speedometer (1102)	✓							
A3	Process Level List (1103)	✓							
A4	Process Swf List (1104)	✓							
A5	Process Speedo List (1105)	✓							
	D I S P O S I T I O N	Done							

Fig. 125 – Load Asset Manager Components 1100

1101 .	Load Asset Manager Components Process Dup List								
L1	Loop over Dup List entries	Ent	Loop		Exit				
C2	More entries?		Yes	No					
A1	Extract info about container		✓						
A2	Create Container (1106)		✓						
	D I S P O S I T I O N	L1 Loop	L1 Loop	L1 Exit	Done				

Fig. 126 – Process Dup List 1101

1102 .	Load Asset Manager Components Load Network Bandwidth Speedometer								
C1	Enter	Yes							
C2	Is load finished?		No	Yes					
A1	Extract Network Bandwidth Speedometer from 1st entry of Speedo List	✓							
A2	Create Container (1106)	✓							
A3	Load Clip (1107)	✓							
A4	Start Network Bandwidth Speedometer (1120)	✓							
	D I S P O S I T I O N	C2	C2	Done					

Fig. 127 – Load Network Bandwidth Speedometer 1102

1103 .	**Load Asset Manager Components Process Level List**								
L1	Loop over Level List entries	Ent	Loop		Exit				
C2	More entries?		Yes	No					
A1	Extract info about level		✓						
A2	Create Container (1106)		✓						
A3	Load Clip (1107)		✓						
	D I S P O S I T I O N	L1 Loop	L1 Loop	L1 Exit	Done				

Fig. 128 – Process Level List 1103

1104 .	**Load Asset Manager Components Process Swf List**								
L1	Loop over Swf List entries	Ent	Loop		Exit				
C2	More entries?		Yes	No					
A1	Extract info about .swf file		✓						
A2	Create Container (1106)		✓						
A3	Load Clip (1107)		✓						
	D I S P O S I T I O N	L1 Loop	L1 Loop	L1 Exit	Done				

Fig. 129 – Process Swf List 1104

1105 .	**Load Asset Manager Components Process Speedo List**								
L1	Loop over Speedo List entries	Ent	Loop		Exit				
C2	More entries?		Yes	No					
A1	Extract info about speedometer or spy file		✓						
A2	Create Container (1106)		✓						
A3	Load Clip (1107)		✓						
	D I S P O S I T I O N	L1 Loop	L1 Loop	L1 Exit	Done				

Fig. 130 – Process Speedo List 1105

1106 .	**Load Asset Manager Components Create Container**								
C1	Is load at a level?	Yes	No						
C2	Is a container supplied?		Yes	No					
C3	Are coordinates supplied?				Yes	No			
A1	Set up level args for Load Clip	✓							
A2	Create container with name and depth on level specified in args			✓					
A3	Set coordinates				✓				
A4	Set up container args for Load Clip				✓	✓			
	D I S P O S I T I O N	Done	C3	C3	Done	Done			

Fig. 131 – Create Container 1106

1107 .	**Load Asset Manager Components** **Load Clip**								
C1	Is Network Bandwidth Speedometer to be notified of this load?	Yes	No						
C2	Is clip load to be monitored?			Yes	No				
A1	Force monitor target to clip Playing	✓							
A2	Add clip to monitor list with start time and load state of Inited			✓					
A3	Start Load Monitor (1110) (may already be running--and that's			✓					
A4	Load clip into level/container specified			✓	✓				
	D I S P O S I T I O N	C2	C2	Done	Done				

Fig. 132 – Load Clip 1107

1110 .	**Load Monitor**								
C1	Are there entries in the monitor list?	No	Yes						
L2	Loop through loads to be monitored		Ent	Loop			Exit		
C3	More entries to process?			Yes		No			
C4	Has load reached monitor target?			Yes	No				
A1	Stop until restarted	✓							
A2	Process Monitor State (1111)				✓				
A3	Wait until next frame						✓		
	D I S P O S I T I O N	Stop C1	L2 Loop	L2 Loop	L2 Loop	L2 Exit	Wait C1		

Fig. 133 – Load Monitor 1110

1111	Load Monitor Process Monitor State									
C1	Current monitor state?	Inited	Loading	Loaded	Playing	Stopped	Done			
C2	Has monitor target been reached?							Yes	No	
A1	Check Loading Started (1112)	✓								
A2	Check Loading Complete (1113)		✓							
A3	Check Playing Started (1114)			✓						
A4	Check Playing Stopped (1115)				✓					
A5	Call callback routine, if any							✓		
A6	Mark entry done							✓		
	D I S P O S I T I O N	C3	C3	C3	C3	Done	Done	Done	Done	

Fig. 134 – Process Monitor State 1111

1112	Load Monitor Check Loading Started								
C1	Is current load frame greater than 0?	Yes	No						
C2	Has timeout expired?		No	Yes					
A1	Set monitor state to Loading	✓							
A2	Increment time for timeout test		✓						
A3	Set load state to Done			✓					
	D I S P O S I T I O N	Done	Done	Done					

Fig. 135 – Check Loading Started 1112

1113 .	**Load Monitor Check Loading Complete**								
C1	Is current load frame at total frames?	Yes	No						
C2	Has timeout expired?		No	Yes					
A1	Set monitor state to Loaded	✓							
A2	Increment time for timeout test		✓						
A3	Set load state to Done			✓					
	D I S P O S I T I O N	Done	Done	Done					

Fig. 136 – Check Loading Compete 1113

1114 .	**Load Monitor Check Playing Started**								
C1	Is current frame greater than 0?	Yes	No						
C2	Has timeout expired?		No	Yes					
C3	Is Network Bandwidth Speedo to be informed?				Yes	No			
A1	Set monitor state to Playing	✓							
A2	Increment time for timeout test		✓						
A3	Set load state to Done			✓					
A4	Report clip to Network Bandwidth Speedo (1120)				✓				
	D I S P O S I T I O N	C3	Done	Done	Done	Done			

Fig. 137 – Check Playing Started 1114

1115 .	Load Monitor Check Playing Stopped								
C1	Is current frame same as last check?	Yes	No						
C2	Has timeout expired?		No	Yes					
A1	Set monitor state to Stopped	✓							
A2	Increment time for timeout test		✓						
A3	Set load state to Done			✓					
	D I S P O S I T I O N	Done	Done	Done					

Fig. 138 – Check Playing Stopped 1115

1120 .	Network Bandwidth Speedometer								
C1	Is speedo on?	No	Yes						
C2	Has average changed bandwidth category?			Yes	No				
A1	Get current time as clip's finish time		✓						
A2	Compute load time from start and finish		✓						
A3	Compute instantaneous rate for that clip (in bytes per second)		✓						
A4	Accumulate load time and size into a new running average rate (in bytes		✓						
A5	Set new Bandwidth Category (used for clip variant choice (see			✓					
A6	Set new Bandwidth Available value (used for Bandwidth Hog processing)			✓					
	D I S P O S I T I O N	Done	C2	Done	Done				

Fig. 139 – Network Bandwidth Speedometer 1120

1121 .	Network Bandwidth Speedometer Turn On Speedo								
C1	Is speedo on?	No	Yes						
A1	Set ON flag	✓							
	D I S P O S I T I O N	Done	Done						

Fig. 140 – Turn On Speedo 1121

1122 .	Network Bandwidth Speedometer Turn Off Speedo								
C1	Is speedo on?	No	Yes						
A1	Clear ON flag		✓						
	D I S P O S I T I O N	Done	Done						

Fig. 141 – Turn Off Speedo 1122

1130 .	CPU Cycles Speedometer								
C1	Enter at frame 1	Yes							
C2	Is speedometer on?	No	Yes						
C3	Has average changed cycles category?			Yes	No				
C4	Has control variable frame number been reached?					No		Yes	
C5	Is this the last frame?					No	Yes		
A1	Get start time		✓						
A2	Run measured loop		✓						
A3	Get finish time		✓						
A4	Compute loop time from start and finish		✓						
A5	Compute instantaneous rate for loop (in operations per second)		✓						
A6	Accumulate loop time and size into a new running average rate (in ops per		✓						
A7	Set new Cycles Category (used for clip variant choice (see			✓					
A8	Set new Cycles Available value (used for Cycle Pig processing)			✓					
A9	Set new control variable			✓					
A10	Advance to next frame			✓	✓	✓			
A11	Jump back to frame 1						✓	✓	
	D I S P O S I T I O N	Stop C1	C3	C4	C4	C4	C1	C1	

Fig. 142 – CPU Cycles Speedometer 1130

1131 .	CPU Cycles Speedometer Turn On Speedo								
C1	Is speedometer on?	Yes	No						
A1	Set loop enable flag		✓						
A2	Start loop (1130)		✓						
	D I S P O S I T I O N	Done	Done						

Fig. 143 – Turn On Speedo 1131

1132 .	CPU Cycles Speedometer Turn Off Speedo								
C1	Is speedometer on?	Yes	No						
A1	Clear loop enable flag	✓							
	D I S P O S I T I O N	Done	Done						

Fig. 144 – Turn Off Speedo 1132

1140	Frame Rate Speedometer								
C1	Enter at frame 1	Yes							
C2	Is speedometer on?	No	Yes						
C3	Does frame number equal control variable?			No	Yes				
C4	Has average changed frame rate category?					Yes	No		
A1	Get start time		✓						
A2	Advance to next frame		✓	✓					
A3	Get finish time				✓				
A4	Compute frame time from start and finish				✓				
A5	Compute instantaneous frame rate (in frames per second)				✓				
A6	Accumulate frame time and count into a new running average rate (in frames				✓				
A7	Set new Frame Rate Category					✓			
A8	Adjust Cycles Category and Cycles Available for Frame Rate Category (used for clip variant choice (see					✓			
A9	Jump back to frame 1					✓	✓		
	D I S P O S I T I O N	Stop C1	C3	C3	C4	C1	C1		

Fig. 145 – Frame Rate Speedometer 1140

1141	Frame Rate Speedometer Turn On Speedo								
C1	Is speedometer on?	Yes	No						
A1	Set loop enable flag		✓						
A2	Start loop (1140)		✓						
	D I S P O S I T I O N	Done	Done						

Fig. 146 – Turn On Speedo 1141

1142 ..	Frame Rate Speedometer Turn Off Speedo								
C1	Is speedometer on?	Yes	No						
A1	Clear loop enable flag	✓							
	D I S P O S I T I O N	Done	Done						

Fig. 147 – Turn Off Speedo 1142

1200 .	**Bootstrap** **RunTime Bootstrap**								
C1	Starting?	Yes							
A1	Site URL access causes bootstrap to be loaded Bootstrap performs remaining operations	✓							
A2	Set startup flag	✓							
A3	Load Preloader (**1210**)	✓							
A4	Load Asset Manager/Active Content Loader (**1220**)	✓							
A5	Load Session (**1230**)	✓							
A6	Load Tables (**1240**)	✓							
	DISPOSITION	Done							

Fig. 148 – Bootstrap 1200

1210 .	**Load Preloader** **RunTime Bootstrap**								
C1	Entry?	Yes							
C2	Preloader loaded?		No	Yes					
C3	Was preloader load fast or slow?				Fast	Slow			
A1	Load Preloader Get load start time	✓							
A2	Get load finish time Compute total load time Save load time and size for later			✓					
A3	Preloader starts playing automatically					✓			
A4	Preloader sets its pointer in the /**vars** block					✓			
	DISPOSITION	C2	C2	C3	Done	Done			

Fig. 149 – Load Preloader 1210

1220 .	**Load Asset Manager / Active Content Loader RunTime Bootstrap**								
C1	Entry?	Yes							
C2	AM / ACL loaded?		No	Yes					
A1	Load AM / ACL Get load start time	✓							
A2	Get load finish time Compute total load time Save load time and size for later			✓					
A3	AM initializes itself			✓					
A4	AM sets its **/vars** block pointer to indicate it is initialized and ready to operate			✓					
A5	ACL initializes itself			✓					
A6	ACL sets its **/vars** block pointer to indicate it is initialized and ready to operate			✓					
	DISPOSITION	C2	C2	Done					

Fig. 150 – Load Asset Manager / Active Content Loader 1220

1230 .	**Load Session RunTime Bootstrap**								
C1	Entry?	Yes							
C2	Is Session loaded?		No	Yes					
A1	Register with AM for Session Save Session Slot pointer	✓							
A2	Set Session info into its slot Mark slot urgent	✓							
A3	Issue load request to AM via slot	✓							
A4	Session starts playing automatically (**1300**)			✓					
	DISPOSITION	C2	C2	Done					

Fig. 151 – Load Session 1230

1240 .	**Load Tables** **RunTime Bootstrap**								
C1	Entry?	Yes							
C2	Is startup flag still set?		Yes	No					
C3	Are Tables loaded?				No	Yes			
A1	Register with AM for Tables Save Tables Slot pointer	✓							
A2	Set Tables info into its slot Mark slot normal			✓					
A3	Issue load request to AM via slot			✓					
A4	Tables starts playing automatically					✓			
A5	Tables sets its **/vars** block pointer to indicate it is initialized and ready to operate					✓			
	DISPOSITION	C2	C2	C3	C3	Done			

Fig. 152 – Load Tables 1240

1300 .	Init Projects Session Operation								
C1	Is Session completely loaded?	No	Yes						
L2	For each project			Ent	Loop	Exit			
C3	More projects?				Yes	No			
C4	Is first project loaded?						No	Yes	
A1	Session starts playing automatically	✓	✓						
A2	Set ready flag		✓						
A3	Set pointer for base of persistent data blocks		✓						
A4	Dup container for project file Set project pointer array in **/vars** block				✓				
A5	Register with AM for first project Save project Slot pointer						✓		
A6	Set first project info into its slot Mark slot urgent						✓		
A7	Issue load request to AM via slot Set current project index to 1						✓		
A8	First Project starts playing automatically (**1400**)								✓
A9	Init Projects - continued (**1310**)								✓
	DISPOSITION	C1	L2	L2 Loop	L2 Loop	L2 Exit	C4	C4	Done

Fig. 153 – Play Session 1300

1310 .	Init Projects - continued Session Operation								
L1	For each remaining project after the first	Ent	Loop	Exit					
C3	More projects?		Yes	No					
A1	Register with AM for project Save project Slot pointer		✓						
A2	Set project info into its slot Mark slot urgent		✓						
	DISPOSITION	L1 Loop	L1 Loop	L1 Exit	Done				

Fig. 154 – Init Projects 1310

1320 .	doDone() Session Routine									
C1	Entry?	Yes								
C2	Project index valid?		Yes	No						
A1	Increment current project index	✓								
A2	Select slot for new current project		✓							
A3	Issue load request to AM via slot		✓							
A4	Project starts playing automatically (1400)		✓							
A5	Web site finished			✓						
	DISPOSITION	C2	Done	Done						

Fig. 155 – Session doDone( ) 1320

1400 .	Play Project Project Operation								
C1	Is Project completely loaded?	No	Yes						
A1	Project starts playing automatically	✓	✓						
A2	Set ready flag		✓						
A3	Initialize project variables Set current project pointer in **/vars** block		✓						
A4	Dup container for Scene 1		✓						
A5	Register with AM for Scene 1 Save project Slot pointer		✓						
A6	Set Scene 1 info into its slot Mark slot urgent		✓						
A7	Issue prep, stage, load and play requests to AM via slot Set current scene index to 1		✓						
A8	Dup container for Scene 2		✓						
A9	Register with AM for Scene 2 Save project Slot pointer		✓						
A10	Set Scene 2 info into its slot Mark slot normal		✓						
A11	Issue prep and stage requests to AM via slot		✓						
A12	Wait Scene 1 Play (**1410**)		✓						
	DISPOSITION	C1	Done						

Fig. 156 – Play Project 1400

1410 .	**Wait Scene 1 Play Project Operation**								
C1	Is Scene 1 playing?	No	Yes						
C2	Are Tables ready?			No	Yes				
A1	Clear startup flag		✓						
A2	Request new table for Scene Table Save table pointer				✓				
A3	Request new table for Scene 2 Quicklink Table Save table pointer in Scene 2 slot				✓				
A4	Init Scene Table				✓				
A5	Init Scene 2 Quicklink Table				✓				
A6	Request new table for Scene 1 Quicklink Table Save table pointer in Scene 1 slot				✓				
A7	Init Scene 1 Quicklink Table				✓				
A8	Add all quicklinkable Scene 1 components to the Scene 1 Quicklink Table				✓				
A9	Set current Quicklink Table pointer to Scene 1's Quicklink Table				✓				
A10	Build Scene Table (**1420**)				✓				
	DISPOSITION	C1	C2	C2	Done				

Fig. 157 – Wait Scene 1 Play 1410

1420 .	**Build Scene Table Project Operation**								
C1	Entry?	Yes							
L2	Create remaining scenes		Entry	Loop	Exit				
C3	More scenes?			Yes	No				
A1	Add Scene 1 to Scene Table	✓							
A2	Add Scene 2 to Scene Table	✓							
A3	Duplicate container for scene			✓					
A4	Register scene with AM Save scene slot pointer			✓					
A5	Set scene info in slot Mark slot normal			✓					
A6	Request new table for scene's Quicklink Table			✓					
A7	Add scene to Scene Table			✓					
A8	Finish Scene Init (**1430**)					✓			
	DISPOSITION	L2 Entry	L2 Loop	L2 Loop	L2 Exit	Done			

Fig. 158 – Build Scene Table 1420

1430 .	**Finish Scene Init Project Operation**								
L1	For scenes after Scene 2	Entry	Loop	Exit					
C2	More scenes?		Yes	No					
A1	Init Scene's Quicklink Table		✓						
A2	Set project table pointer to indicate that project tables are available				✓				
	DISPOSITION	L1 Loop	L1 Loop	L1 Exit	Done				

Fig. 159 – Finish Scene Init 1430

1440 .	doDone() Project Routine								
C1	Are tables available?	No	Yes						
C2	Looping enabled?			Yes	No				
C3	Scene index too large?			Yes	No				
A1	Ignore request	✓							
A2	Call doOldScene() (**1490**)		✓						
A3	Increment current scene index		✓						
A4	Reset current scene index to 1			✓					
A5	Call doNewScene() (**1500**)			✓	✓	✓			
A6	Call doNextScene() (**1510**)			✓	✓	✓			
	DISPOSITION	Done	C2	Done	Done	Done			

Fig. 160 – Project doDone( ) 1440

1450 .	doJump() Project Routine								
C1	Are tables available?	No	Yes						
C2	Scene Found?			No	Yes				
A1	Ignore request	✓							
A2	Extract destination scene ID		✓						
A3	Look up ID in Scene Table		✓						
A4	Call doOldScene() (**1490**)			✓	✓				
A5	Call Session doDone() (**1310**)			✓					
A6	Set new destination scene ID				✓				
A7	Mark new scene's slot urgent				✓				
A8	Issue prep, stage, and load requests to AM via slot				✓				
A9	Call doNewScene() (**1500**)				✓				
A10	Call doNextScene() (**1510**)				✓				
	DISPOSITION	Done	C2	Done	Done				

Fig. 161 – Project doJump( ) 1450

1460 .	doForceDone() Project Routine								
C1	Entry?	Yes							
A1	Set force flag true	✓							
A2	Call doDone() (**1440**)	✓							
	DISPOSITION	Done							

Fig. 162 – Project doForceDone( ) 1460

1470 .	doHold() Project Routine								
C1	Entry?	Yes							
A1	Increment hold count	✓							
	DISPOSITION	Done							

Fig. 163 – Project doHold( ) 1470

1480 .	doRelease() Project Routine								
C1	Entry?	Yes							
A1	Decrement hold count	✓							
	DISPOSITION								

Fig. 164 – Project doRelease( ) 1480

1490 .	doOldScene() Project Routine									
C1	Are tables available?	No	Yes							
C2	More than 1 scene?			No	Yes					
C3	More than 2 scenes?				No	Yes				
A1	Ignore request	✓								
A2	Save current scene index as old index		✓							
A3	Clear current Quicklink table pointer in **/vars** block				✓		✓			
A4	Retrieve scene entry in Scene Table				✓		✓			
A5	Call scene doEnd() (to hide scene)				✓		✓			
A6	Issue unload request to AM via scene's slot						✓			
	DISPOSITION	Done	C2	Done	C3	Done	Done			

Fig. 165 – Project doOldScene( ) 1490

1500 .	doNewScene() Project Routine								
C1	Are tables available?	No	Yes						
C2	More than 1 scene?		No	Yes					
C3	More than 2 scenes?				No	Yes			
A1	Ignore request	✓							
A2	Retrieve scene entry in Scene Table			✓					
A3	Restart scene timeline				✓				
A4	Issue play request to AM via scene's slot					✓			
A5	Set current scene pointer in **/vars** Set current quicklink table pointer in **/vars**				✓	✓			
	DISPOSITION	Done	Done	C3	Done	Done			

Fig. 166 – Project doNewScene( ) 1500

1510 .	doNextScene() Project Routine								
C1	Entry?	Yes							
C2	Is Scene ID valid?		Yes	No					
C3	Looping enabled?			No	Yes				
C4	More than 2 scenes?				No	Yes			
A1	Set next scene index to current index + 1	✓							
A2	Ignore request			✓					
A3	Reset scene index to 1				✓				
A4	Issue prep, stage, and load requests to AM via scene's slot						✓		
	DISPOSITION	C2	C4	Done	C4	Done	Done		

Fig. 167 – Project doNextScene( ) 1510

1600 .	Play Scene Scene Operation								
C1	Is Scene completely loaded?	No	Yes						
A1	Scene starts playing automatically	✓	✓						
A2	Set ready flag		✓						
A3	Init scene time variables		✓						
A4	Initialize other scene variables		✓						
A5	Stop and wait for Begin Scene (**1610**)		✓						
	DISPOSITION	C1	Done						

Fig. 168 – Play Scene 1600

1610 .	Begin Scene Scene Operation								
C1	Play at frBegin?	No	Yes						
A1	Stopped, waiting for play	✓							
A2	Call doShow() on each component's control to turn it on		✓						
A3	Set scene start time to current timer time		✓						
A4	Init for (re)play of scene "Needed" Done count set to component count		✓						
A5	Wait for scene timeout (**1620**)		✓						
	DISPOSITION	C1	Done						

Fig. 169 – Begin Scene 1610

1620	Wait Scene Timeout Scene Operation								
C1	Has scene timeout elapsed?	No	Yes						
C2	Is scene being held?			Yes	No				
C3	Done flag?				Set	Clr			
C4	Is scene being forced done?					Yes	No		
A1	Set Done Flag		✓						
A2	Call project doRelease() (1480)				✓		✓		
A3	Call project doDone() (1440)				✓		✓		
A4	Clear Done Flag				✓		✓		
	DISPOSITION	C2	C2	C4	Done	C4	Done	C1	

Fig. 170 – Wait Scene Timeout 1620

1630	doDone() Scene Routine								
C1	Entry?	Yes							
C2	Does "done" count equal or exceed "needed"		Yes	No					
A1	Increment "done" count	✓							
A2	Set Done Flag		✓						
	DISPOSITION	C2	Done	Done					

Fig. 171 – Scene doDone( ) 1630

1640	doForceDone() Scene Routine								
C1	Entry?	Yes							
A1	Set "force" flag	✓							
A2	Call project doRelease() (1480) for each "hold"	✓							
	DISPOSITION	Done							

Fig. 172 – Scene doForceDone( ) 1640

1650	doHold() Scene Routine								
C1	Entry?	Yes							
A1	Increment hold count	✓							
A2	Call project doHold() (1470)	✓							
	DISPOSITION	Done							

Fig. 173 – Scene doHold( ) 1650

1660	doRelease() Scene Routine								
C1	Entry?	Yes							
A1	Decrement hold count	✓							
A2	Call project doRelease() (1480)	✓							
	DISPOSITION	Done							

Fig. 174 – Scene doRelease( ) 1660

1670 .	doJump() Scene Routine								
C1	Entry?	Yes							
A1	Pass Jump ID to project	✓							
A2	Call project doJump() (1450)	✓							
	DISPOSITION	Done							

Fig. 175 – Scene doJump( ) 1670

1680 .	doEnd() Scene Routine								
C1	Entry?	Yes							
A2	Call doHide() on each component's control to turn it off	✓							
	DISPOSITION	Done							

Fig. 176 – Scene doEnd( ) 1680

1700 .	**Asset Manager (56KB bandwidth version) Initialization and Startup**								
C1	Entry?	Yes							
C2	Is network bandwidth high?		Yes	No					
A1	Initialize Asset Manager	✓							
A2	Initialize Active Content Loader (**1900**)	✓							
A3	Initialize Urgent queue	✓							
A4	Initialize Normal queue	✓							
A5	Load high bandwidth Asset Manager		✓						
A6	Set AM pointer in **/vars** block to indicate ready to operate		✓	✓					
A7	Start Operation Processing Loop (**1800**)		✓	✓					
A8	Wait for User Request Calls (**1710**)		✓	✓					
	DISPOSITION	C2	Done	Done					

Fig. 177 – AM Init and Startup 1700

1710 .	**Asset Manager (56KB bandwidth version) User Request Calls**								
C1	User request?	Reg	Prep	Stg	Load	Play	Unld	Other ne	No
A1	Process Registration request (**1720**)	✓							
A2	Process Scene Prep request (**1730**)		✓						
A3	Process Scene Stage request (**1740**)			✓					
A4	Process Load request (**1750**)				✓				
A5	Process Play request (**1760**)					✓			
A6	Process Unload request (**1770**)						✓		
A7	Set error response							✓	
	DISPOSITION	C1	C1	C1	C1	C1	C1	C1	C1

Fig. 178 – AM User Request Calls 1710

1720 .	Asset Manager (56KB bandwidth version) Process Registration request								
C1	Entry?	Yes							
A1	Create "slot" timeline	✓							
A2	Initialize variables in slot	✓							
A3	Initialize op list in slot	✓							
A4	Return slot pointer	✓							
	DISPOSITION	Done							

Fig. 179 – AM Process Registration 1720

1730 .	Asset Manager (56KB bandwidth version) Process Scene Prep request								
C1	Entry?	Yes							
A1	Set prep op and prep flag	✓							
A2	Queue slot (**1780**)	✓							
	DISPOSITION	Done							

Fig. 180 – AM Scene Prep 1730

1740 .	Asset Manager (56KB bandwidth version) Process Scene Stage request								
C1	Entry?	Yes							
A1	Set stage op and stage flag	✓							
A2	Queue slot (**1780**)	✓							
	DISPOSITION	Done							

Fig. 181 – AM Scene Stage 1740

1750 .	Asset Manager (56KB bandwidth version) Process Load request								
C1	Entry?	Yes							
A1	Set load op and load flag	✓							
A2	Queue slot (1780)	✓							
	DISPOSITION	Done							

Fig. 182 – AM Scene Load 1750

1760 .	Asset Manager (56KB bandwidth version) Process Play request								
C1	Entry?	Yes							
A1	Set play op and play flag	✓							
A2	Queue slot (1780)	✓							
	DISPOSITION	Done							

Fig. 183 – AM Process Play 1760

1770 .	Asset Manager (56KB bandwidth version) Process Unload request								
C1	Entry?	Yes							
A1	Set unload op	✓							
A2	Queue slot (1780)	✓							
	DISPOSITION	Done							

Fig. 184 – AM Process Unload 1770

1780 .	**Asset Manager (56KB bandwidth version) Queue slot**								
C1	Entry?	Yes							
C2	Is slot's urgent flag set?		Yes	No					
A1	Add op to slot's op list	✓							
A2	Set slot busy	✓							
A3	Add slot to tail of Urgent queue		✓						
A4	Increment Urgent queue count		✓						
A5	Add slot to tail of Normal queue			✓					
A6	Increment Normal queue count			✓					
A7	Play Operation Processing Loop (1800)		✓	✓					
	DISPOSITION	C2	Done	Done					

Fig. 185 – AM Queue Sot 1780

1790 .	**Asset Manager (56KB bandwidth version) Dequeue slot**								
C1	Is slot on urgent or normal queue?	urg	norm	oth					
A1	Remove slot from urgent queue	✓							
A2	Decrement urgent queue count	✓							
A3	Remove slot from normal queue		✓						
A4	Decrement normal queue count		✓						
A5	Set error			✓					
	DISPOSITION	Done	Done	Done					

Fig. 186 – AM Dequeue Sot 1790

1800 .	Asset Manager (56KB bandwidth version) Operation Processing								
C1	Entry?	Yes							
C2	Does slot exist?		Yes	No					
C3	Does slot exist?				Yes	No			
C4	Is Urgent queue empty?					No	Yes		
A1	Select slot on Head of Urgent queue	✓					✓		
A2	Select slot on Head of Normal queue			✓					
A3	Process Op(s) in selected slot (**1810**)		✓		✓				
A4	Select next slot on Urgent queue		✓						
A5	Select next slot on Normal queue							✓	
NOTE	Code stops when both queues are empty. Code that adds a slot to a queue does a "play" which starts the code up again.					✓			
	DISPOSITION	C2	C2	C3	C4	Stop C1	C2	C3	

Fig. 187 – AM Operation Processing 1800

1810	Asset Manager (56KB bandwidth version) Process Op(s) in selected slot								
C1	Is op index zero?	Yes	No						
C2	Is there an op?			Yes	No				
C3	Does response index match op index?			Yes	No				
C4	Is op complete?			Yes	No				
C5	Is op flag still set?						Yes	No	
A1	Initialize op index to one Initialize response index to zero	✓							
A2	Increment op index			✓					✓
A3	Select op (at op index)	✓	✓	✓					✓
A4	Set op flag					✓			
A5	Process op (**1820**)					✓			
A6	Set no such op error							✓	
A7	Set error response							✓	
A8	Reset op list						✓		
A9	Dequeue slot from its queue (**1790**)						✓	✓	
A10	Op still in progress				✓				
	DISPOSITION	C2	C2	C2	Done	C5	Done	Done	C2

Fig. 188 – AM Process Op(s) In Slot 1810

1820 .	Asset Manager (56KB bandwidth version) Process Op								
C1	Op?	Prep	Stg	Load	Play	Unld	Oth		
A1	Clear op flag (indicates op exists)	✓	✓	✓	✓	✓			
A2	Set response index to op index	✓	✓	✓	✓	✓			
A3	Set busy response	✓	✓	✓	✓	✓			
A4	Process Prep operation (**1830**)	✓							
A5	Process Stage operation (**1840**)		✓						
A6	Process Load operation (**1850**)			✓					
A7	Process Play operation (**1860**)				✓				
A8	Process Unload operation (**1870**)					✓			
	DISPOSITION	Done	Done	Done	Done	Done	Done		

Fig. 189 – AM Process Op 1820

1830 .	Asset Manager (56KB bandwidth version) Process Prep operation								
C1	Entry?	Yes							
A1	Set up scene file information	✓							
A2	Register with Active Content Loader for load (**1920**)	✓							
	DISPOSITION	Done							

Fig. 190 – AM Process Prep Operation 1830

1840 .	**Asset Manager (56KB bandwidth version) Process Stage operation**								
C1	Entry?	Yes							
A1	Set up scene's data block files info	✓							
A2	Register with Active Content Loader for load (**1920**)	✓							
	DISPOSITION	Done							

Fig. 191 – AM Process Stage Operation 1840

1850 .	**Asset Manager (56KB bandwidth version) Process Load operation**								
C1	Scene or clip load?	scene	clip						
A1	Set up scene's control, chrome, and debug files info	✓							
A2	Set up clip's file info		✓						
A3	Register with Active Content Loader for load (**1920**)	✓	✓						
	DISPOSITION	Done	Done						

Fig. 192 – AM Process Load Operation 1850

1860 .	**Asset Manager (56KB bandwidth version) Process Play operation**								
C1	Scene or clip?	scene	clip						
A1	Play scene's frBegin frame	✓							
A2	Call clip's doPlay() function		✓						
	DISPOSITION	Done	Done						

Fig. 193 – AM Process Play Operation 1860

1870 .	**Asset Manager (56KB bandwidth version) Process Unload operation**								
C1	Scene or clip?	scene	clip						
A1	Call scene's doEnd() function	✓							
A1	Unload scene's control and chrome files	✓							
A2	Call clip's doHide() function		✓						
A2	Unload clip		✓						
	DISPOSITION	Done	Done						

Fig. 194 – AM Process Unload Operation 1870

1900 .	**Active Content Loader Initialization and Startup**								
C1	Entry?	Yes							
A1	Init ACL urgent and normal queues	✓							
A2	Init ACL working pointers	✓							
A3	Load Project Text file containing object parameters	✓							
A4	Init ACL bandwidth algorithm variables	✓							
A5	Init ACL CPU algorithm variables	✓							
A6	Start CPU speedometer (**2070**)	✓							
A7	Start frame rate speedometer (**2080**)	✓							
A8	Set ACL pointer in **/vars** block to indicate ready to operate	✓							
A9	Start Loader frame loop (**1960**)	✓							
A10	Wait for Asset Manager Request Calls (**1910**)	✓							
	D I S P O S I T I O N	Done							

Fig. 195 - ACL Init and Startup 1900

1910 .	**Active Content Loader Asset Manager Request Calls**								
C1	Request type?	Reg	Un reg						
A1	Process Register (**1920**)	✓							
A2	Process Unregister (**1930**)		✓						
	DISPOSITION	Done	Done						

Fig. 196 – ACL AM Request Calls 1910

1920 .	Active Content Loader Process Register								
C2	Operation?	Prep	Stg	Load	Oth				
C3	Clip or scene?			clip	scene				
A1	Set up for load of scene file	✓							
A2	Set up for load of scene data block file(s)		✓						
A3	Set up for load of clip file			✓					
A4	Set up for load of scene control block, chrome, and debug files				✓				
A5	Queue Slot (**1940**)	✓	✓	✓	✓				
A6	Set error					✓			
	DISPOSITION	Done	Done	Done	Done	Done			

Fig. 197 – ACL Process Register 1920

1930 .	Active Content Loader Process Unregister								
C1	Is slot registered?	Yes	No						
A1	Dequeue slot (**1950**)	✓							
A3	Abort loads in progress (**1990**)	✓							
A4	Set error		✓						
	DISPOSITION	Done	Done						

Fig. 198 – ACL Process Unregister 1930

1940 .	Active Content Loader Queue slot								
C1	Is slot's urgent flag set?	Yes	No						
A1	Add slot to tail of Urgent queue	✓							
A4	Increment Urgent queue count	✓							
A3	Add slot to tail of Normal queue		✓						
A4	Increment Normal queue count		✓						
A5	Play Loader Frame Loop (**1960**)	✓	✓						
	DISPOSITION	Done	Done						

Fig. 199 – ACL Queue Slot 1940

1950 .	Active Content Loader Dequeue slot								
C1	Is slot on urgent or normal queue?	urg	norm	oth					
A1	Remove slot from urgent queue	✓							
A2	Decrement urgent queue count	✓							
A3	Remove slot from normal queue		✓						
A4	Decrement normal queue count		✓						
A5	Set error			✓					
	DISPOSITION	Done	Done	Done					

Fig. 200 – ACL Requeue Slot 1950

1960 .	**Active Content Loader** **Loader frame loop**								
C1	Entry?	Yes							
C2	Does slot exist?		Yes	No					
C3	Does slot exist?				Yes	No			
C4	Is Urgent queue empty?					No	Yes		
A1	Set abort flag in slot from Normal queue						✓		
A2	Select slot on Head of Urgent queue	✓					✓		
A3	Select slot on Head of Normal queue			✓					
A4	Perform load processing (**1970**)		✓		✓				
A5	Select next slot on Urgent queue		✓						
A6	Select next slot on Normal queue							✓	
NOTE	Code stops when both queues are empty. Code that adds a slot to a queue does a "play" which starts the code up again.					✓			
	DISPOSITION	C2	C2	C3	C4	Stop C1	C2	C3	

Fig. 201 – ACL Loader Frame Loop 1960

1970 .	Active Content Loader Perform load processing								
C1	Entry?	Yes							
C2	Is load finished??		Yes	No					
C3	Is load being aborted?			Yes	No				
A1	Check loads done (**1980**)	✓							
A2	Abort loads (**1990**)			✓					
A3	Set load done response		✓						
A4	Dequeue slot (**1950**)		✓	✓					
A5	Continue load processing (**2000**)				✓				
	DISPOSITION	C2	Done	Done	Done				

Fig. 202 – ACL Perform Load Processing 1970

1980 .	Active Content Loader Check loads done								
L1	Loop thru loads in progress	Ent	Loop	Exit					
C2	Is there a load in progress to check?		Y	N					
C3	Is load in progress completed?		Y	N					
A1	Select 1st load in progress	✓							
A2	Mark component loaded		✓						
A3	Record load finish time		✓						
A5	Report load start and end times and file size to Bandwidth Speedometer (**2060**)		✓						
A4	Compute new percent loaded		✓	✓					
A5	Select next load in progress		✓	✓					
	DISPOSITION	L1 Loop	L1 Loop	L1 Loop	L1 Exit	Done			

Fig. 203 – ACL Check Loads Done 1980

1990 .	Active Content Loader Abort loads								
L1	Loop thru loads in progress	Ent	Loop	Exit					
C2	Is there a load in progress to abort?		Y	N					
A1	Select 1st load in progress	✓							
A2	Abort load in progress		✓						
A3	Mark item unloaded		✓						
A4	Select next load in progress		✓						
	DISPOSITION	L1 Loop	L1 Loop	L1 Exit	Done				

Fig. 204 – ACL Abort Loads 1990

2000 .	Active Content Loader Continue load processing								
C1	Load operation?	Prep	Stg	Load					
C2	Clip or scene?			clip	sc ene				
A1	Perform prep processing (**2010**)	✓							
A2	Perform stage processing (**2020**)		✓						
A3	Perform clip load processing (**2030**)			✓					
A4	Perform scene load processing (**2040**)				✓				
	DISPOSITION	Done	Done	Done	Done				

Fig. 205 – ACL Continue Load Processing 2000

2010 .	Active Content Loader Perform prep processing								
C1	Are there free load channels?	No	Yes						
A1	Allocate load channel		✓						
A2	Select Matching File (**2050**)		✓						
A3	Record load start time		✓						
A4	Start load of scene file		✓						
	DISPOSITION	Done	Done						

Fig. 206 – ACL Perform Prep Processing 2010

2020 .	Active Content Loader Perform stage processing								
C1	Are there free load channels?	No	Yes						
C2	Are there more data blocks to load?			Yes	No				
A1	Allocate load channel		✓						
A2	Pick next data block		✓						
A3	Select Matching File (**2050**)		✓						
A4	Record load start time		✓						
A5	Start load of data block file		✓						
	DISPOSITION	Done	C2	C1	Done				

Fig. 207 – ACL Perform Stage Processing 2020

2022 .	**Active Content Loader** **Perform stage processing**								
C1	Are there any objects in the scene?	No	Yes						
L2	Loop through data blocks		Ent	Loop		Exit			
C3	More data blocks needed for this scene?			Yes	No				
A1	Dup master data block			✓					
A2	Init new data block for object			✓					
A3	Copy object parameters (**2025**)			✓					
A4	Check Scene Checksums (**2028**)					✓			
	D I S P O S I T I O N	Done	L2 Loop	L2 Loop	L2 Exit	Done			

Fig. 208 - ACL Perform Stage Processing 2022

2025 .	**Active Content Loader** **Copy Object Parameters**								
L1	Loop through object parameters	Ent	Loop				Exit		
C2	More integer parameters?		Yes	No					
C3	More string parameters?			Yes	No				
C4	More floating point parameters?				Yes	No			
A1	Copy parameter to data block		✓	✓	✓				
A2	Add parameter to object's integer checksum		✓						
A2	Add parameter to object's string checksum			✓					
A2	Add parameter to object's float checksum				✓				
A5	Save the three checksums in the data block						✓		
	D I S P O S I T I O N	L1 Loop	L1 Loop	L1 Loop	L1 Loop	L1 Exit	Done		

Fig. 209 - ACL Copy Object Parameters 2025

2028 .	Active Content Loader **Check Scene Checksums**								
C1	Are there any objects in the scene?	No	Yes						
L2	Loop through data blocks		Ent	Loop		Exit			
C3	More data blocks for this scene?			Yes	No				
C4	Do check values match scene checksums?					Yes	No		
A1	Init integer, string, and float checksum check values		✓						
A2	Add object integer checksum to integer check value			✓					
A3	Add object string checksum to string check value			✓					
A4	Add object float checksum to float check value			✓					
A5	Display error message dialog box						✓		
A6	Halt processing (project cannot be viewed)						✓		
	D I S P O S I T I O N	Done	L2 Loop	L2 Loop	L2 Exit	Done	Done	Done	

Fig. 210 - ACL Check Scene Checksums 2028

2030 .	**Active Content Loader Perform clip load processing**								
C1	Are there free load channels?	No	Yes						
A1	Allocate load channel		✓						
A2	Select Matching File (**2050**)		✓						
A3	Record load start time		✓						
A4	Start load of clip file		✓						
	DISPOSITION	Done	Done						

Fig. 211 – ACL Perform Clip Load Processing 2030

2040 .	Active Content Loader Perform scene load processing								
C1	Are there free load channels?	No	Yes						
C2	Are there more component files to load?			Yes	No				
A1	Allocate load channel		✓						
A2	Pick next component file		✓						
A3	Select Matching File (**2050**)		✓						
A4	Record load start time		✓						
A5	Start load of component file		✓						
	DISPOSITION	Done	C2	C1	Done				

Fig. 212 – ACL Perform Scene Load Processing 2040

2050 .	Active Content Loader Select Matching File								
C1	Is there more than one possible file?	No	Yes						
C2	Is there an exact bandwidth and cpu match?		Yes	No					
C3	Are there files with lower bandwidth and lower cpu?			Yes	No				
C4	Are there files with lower cpu and higher bandwidth				Yes	No			
A1	Select the only file	✓							
A2	Select exact match file		✓						
A3	Select file with largest bandwidth <= to actual bandwidth and with largest cpu requirement <= to actual cpu capability			✓					
A4	Select file with smallest bandwidth >= actual bandwidth and with largest cpu requirement <= actual cpu capability				✓				
A5	Compute distances of file requirements from actual capabilities					✓			
A6	Select file with smallest overall distance					✓			
	DISPOSITION	Done	Done	Done	Done	Done			

Fig. 213 – ACL Select Matching File 2050

2060.	Active Content Loader Report Load to Bandwidth Speedometer								
C1	Entry?	Yes							
A1	Compute load time	✓							
A2	Compute bytes per second for this load	✓							
A3	Compute running average of all loads	✓							
A4	Set bandwidth selector	✓							
	DISPOSITION	Done							

Fig. 214 – ACL Report Load to Bandwidth Speedo 2060

2070.	Active Content Loader CPU Speedometer								
C1	Is it time to measure the CPU again?	Yes	No						
A1	Execute timed loop	✓							
A2	Compute instructions per second	✓							
A3	Compute running average of CPU speed	✓							
A4	Use CPU speed and frame rate to set CPU selector	✓							
	DISPOSITION	C1	C1						

Fig. 215 – ACL CPU Speedometer 2070

2080	**Active Content Loader** **Frame Rate Speedometer**								
C1	Is it time to measure the frame rate again?	Yes	No						
A1	Execute timed frame loop	✓							
A2	Compute frames per second	✓							
A3	Compute running average of frame rate	✓							
A4	Use CPU speed and frame rate to set CPU selector	✓							
	DISPOSITION	C1	C1						

Fig. 216 – ACL Frame Rate Speedometer 2080